

# ESTABLISHED 1848

## COLMAN'S RURAL WORLD

DEVOTED TO AGRICULTURE HORTICULTURE HORSES CATTLE SHEEP SWINE ETC.

Established 1848.

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### COLMAN'S RURAL WORLD.

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LEVI CHUBBUCK, EDITORS.

Published every Wednesday, in Chemical building, corner of Eighth and Olive streets, St. Louis, Mo., at one dollar per year. Eastern office, Chalmers D. Colman, 529 Temple Court, New York City. Advertisers will find the RURAL WORLD the best advertising medium of its class in the United States. Address all letters to COLMAN'S RURAL WORLD, Chemical Building, St. Louis, Mo.

While the RURAL WORLD is published at one dollar a year, it has temporarily allowed old subscribers to send actually NEW OR TRIAL subscribers with their own subscriptions at fifty cents a year, in order to largely increase the circulation and influence of the paper. This price is less than the cost of the white paper, presswork, folding, wrapping, mailing and prepaying the postage, saying nothing of any other of the large expenses of maintaining offices, paying salaries and conducting such a paper in a large city. Renewals, unless accompanied by one or more NEW subscribers, must be at one dollar a year. All names are dropped as soon as subscriptions expire. The month named on the address tag, pasted on each issue, shows the month subscriptions expire, and renewals should be made two or three weeks before, so that names shall not drop out of list. It is gratifying to the proprietor to be able to state, in his half century's experience in conducting this paper, it has never enjoyed the patronage and prosperity it now does. Its circulation is increasing in a wonderful degree, and its advertising patrons, many of whom have used its columns for a quarter or a third of a century, are more than pleased with results. Let all our friends unite and press forward in extending its sphere of influence. It will do for others what it is doing for you, so get others to join the great RURAL WORLD army and receive the same benefit.

Mr. Legh Richmond Freeman, editor of "Northwest Farm and Home, of Seattle and Portland, Oregon, called at the RURAL WORLD office while in St. Louis last week. We were pleased to shake hands with our editorial brother from the Pacific coast, and to commend him and his paper to our readers in that wonderful Northwest.

#### GET A RIGHT START.

We present on this page an article on Agriculture in the Rural Schools, by Secretary Geo. B. Ellis, of the Missouri Board of Agriculture, and published in the June Bulletin of the Board. We have called attention in previous issues of the RURAL WORLD to the interest that the State Department of Education, the State Agricultural College and the State Board of Agriculture were taking in this matter of introducing the study of the elements of agriculture into our rural schools, and we are more than pleased to publish the fact that the work is under way, and to claim for Missouri the honor of being in the forefront of a movement that promises the most happy results.

It has taken years of agitation and discussion to develop a public sentiment that would permit this line of work in the public schools, and even yet there is prejudice and wrong conceptions to overcome, as Secretary Ellis points out. And if the Secretary will accept a kindly criticism, let us say that, to our mind, a portion of the prejudice is due to a wrong conception of what the proposed work should consist of and which is indicated in the expression "the teaching of agriculture or horticulture," or, as it is more frequently put, "the teaching of agriculture and horticulture." We contend that the essence of this line of work should limit the expression to "the teaching of agriculture," that is, the principles of agriculture, and attach to the word "agriculture" its broad significance. When the expression, "agriculture and horticulture" is used, it is inevitable that the mind will attach a technical significance to the words and conceive that in teaching the children agriculture they are to be taught methods of corn and wheat culture, and in horticulture, how to bud, graft and grow Ben Davis apples.

Then it follows naturally that instruction must be given in dairying, that is, in breeding and selecting a dairy cow, how to milk, make butter, etc.; also in pig feeding, poultry raising, bee keeping and so on until we are all at sea and swamped. All that is, of course, impractical, and the public mind must be kept clear of any such notion. The subject to be taught is agriculture, and under that head will come the study of soils, the guide to which Prof. Smith is to prepare; the Study of Plants, to be prepared by Prof. Thom, and Study of Insects, by Prof. Stedman. Information given to the chil-



QUADRIGA UPON THE UNITED STATES BUILDING, PAN-AMERICAN EXPOSITION.

This group, by F. Wellington Ruckstuhl, surmounts the dome of the U. S. Government Building, and is visible from a far distant point. The group of horses as driven by the charioter expresses much life. The work was done originally for the U. S. Government Building at the recent Paris Exposition.

dren through the study of such subjects as basic and will be as readily adapted by them in their future life on the farm to their work, whether they become grain farmers, dairymen or fruit raisers. It is the underlying principles of agriculture that should be taught, and only that.

#### A SOIL MAP.

Our Washington correspondent has presented in his "Pebbles From the Potomac," on this page, a brief statement regarding the Soil Map of the United States that is being prepared, and on the eighth page of this issue will be found a still more extended article on this subject. The matter is one of great interest and importance. And our readers will be under obligations to Mr. Gillespie for having brought it to their attention.

Soil is the basis of agriculture. The business of farming is primarily that of plant production, and for that purpose the farmer should have soil suited to his particular needs.

To say that one should have suitable soil is to say in effect that soils vary in their characteristics, and this every farmer knows. And this being the case, it is a self-evident truth that farmers should study soils. To our mind soil study is the subject that is not only first in point of sequence, but is important among the many that should engage the farmer's attention; and so this effort on the part of the Government is, we think, commendable. But a map on so comprehensive a scale as that projected—representing a ten-acre patch on one-eighth of an inch square of map—will fall far short of telling a farmer all that he should know about the soil of his 10, 40, 80, 160, or 320-acre farm. It will, when brought to its highest perfection, give but the slightest hint, the barest suggestion of the multitude of facts which the farmer must get possession of before he can be said to know the soil of his farm. These facts he must get, if they are to do him the most good, by a study of the soil itself, using such aids as he can command, among which should be a good book like "The Soil," by Prof. F. H. King, of the Wisconsin Agricultural College.

And among all the facts that one can acquire by study of the maps and books prepared by man, and nature's book—the woods and fields—the most pregnant fact of all is this: To man was given the power to change the characteristics, adaptability and degree of fertility of soil. By ignorant manipulation he can in a few short years undo what it took nature thousands of years in soil building to accomplish and reduce a fair and fertile field to a scarred blotch on which nature will attempt to grow only such plants as will partially hide her nakedness; or he can, by the application of intelligent methods, co-operating with nature, convert a sandy, barren waste into a garden that will yield an abundance of fruits and flowers.

Uncle Sam's Soil Map and all such sources of information are of great aid, and should be made use by farmers, but do not put too much dependence on them. Remember that much depends on the character, general intelligence and will power of the man behind the plow.

VERNON CO.—The dry weather continues; one-half inch of rain on the 16th. A high dry wind is fast draining the soil of the little moisture that is left. We shall be fortunate if we do not have hot winds soon. Corn continues to grow and looks well. The most of our farmers continue to stir their corn ground weekly, which is the best thing to do. Oats are very short and being mowed for hay. Wheat is all cut and some of it stacked. Prairie meadows are very short. Timothy and red top meadows are short and thin. Apples, peaches, plums, etc., are not developing as they ought. C. A. BIRD, June 24.

#### GOVERNMENT IRRIGATION WORKS.

In the matter of irrigation works, to which Mr. Gillespie refers on this page, and regarding which there is a good deal of agitation for congressional aid, there is danger of going too far and the government work become of a paternal character. Unquestionably there are vast regions in the western half of the country that can be made of value agriculturally by means of irrigation. Probably there the Government is in duty bound to undertake the work. But it is being suggested in some quarters that the Government could, with much advantage to individual farmers, extend irrigation works into the regions where irrigating, though not essential, is more or less beneficial in adding to and insuring crop yields.

Suppose it were feasible for the Government to extend irrigation works throughout the country and that these would do all that is claimed, render the farmer independent of the lack of rainfall, and insure him good crops. Does anyone who has ever studied human nature believe that it would be to his advantage as a man? Human nature is weak and very few of us are going to work any harder than necessity says we must. It is necessity that spurs us on and gets out of some of us a portion of what we are capable. If the Government makes it easier for us to fight the battle of life, we are very apt to accept the service as a matter of course and ask the Government to put in a few more ticks for us. In the interest of a strong, virile, independent citizenship, we deprecate paternalism, and that is what there is danger of such schemes as extensive irrigation works degenerating into.

What is needed more than government irrigation works is that the farmers be taught how they, by the use of the inherent but trained forces within them, mental and physical, and the application of knowledge to their business, can become coworkers with Nature.

We remember a year in our boyhood days when a drouth extended from before corn was planted until after the crop was put in the shock. In many instances the crop was fair. "Ah, yes," some will say when that asser and its crops are referred to, "but the soil was new and fresh." No, it was old. For cycles of centuries Nature had been producing annual crops on that land, and turned it over to American farmers (who we pride ourselves in saying are the most intelligent in the world), and in two decades of years a two weeks' drouth meant injury to the crops, and one of twice that length meant crop failure.

When our farmers have made a careful study of soil, the first great lesson in the art and science of farming, and have learned of its constituents and physical and chemical characteristics, and how it should be handled with reference to conservation of soil moisture and plant food, periods of a week, fortnight, a month and even two months of absence of rain will lose their terror and destructive power. There will then be little need or demand for Government aid for extending irrigation works beyond the arid regions.

The study of this great basic lesson should begin in childhood and in our rural public schools, and, thanks be to God! we have the promise that it is to begin there at least in Missouri, as will be noted elsewhere on this page. And you who have in charge the shaping and starting of that work, may you be imbued with a full sense of the far-reaching effect and incalculable value for good that lies in the opportunity that is thus given you.

If your work is successful results will follow that will continue in ever-widening circles to the remotest shores of time.

#### FOREST TREE PLANTING.

Editor RURAL WORLD: The Forestry Division of the Department of Agriculture has issued quite recently a circular, which is designed to awaken an interest in a cause so momentous to the dwellers on treeless wind-swept plains, but also so sadly ignored by these tillers. The Division offers practical assistance to planters, as far as giving reliable information on the choice of best varieties, and the most intelligent mode of planting and cultivation that can be imparted by its agents. Their services to the prairie farmer are offered free of charge, outside of the payment of traveling and hotel expenses, Turkish baths and a fair allowance of ice cream of course included.

The circular deserves the widest possible dissemination throughout the country. It indicates a fundamental stepping-stone to a rational system of forest culture to be inaugurated in the fullness of time by the people and for the people, the benefits of the returns of which, if once fairly in vogue and dominated by American enterprise and intelligence can not be computed in figures or in imagination.

This timely appeal to western farmers, landowners and corporations reminds the writer quite pleasantly of a circular note addressed to the institutions of higher education, issued by the Forestry Division of the Department of Agriculture, during the administration of the Hon. Norman J. Colman, when as United States Secretary of Agriculture he invited the attention of leaders and controllers of the universities and colleges of the land to the results accruing from a practical and rational system of improvement of the widespread areas of ground surrounding these institutions of education. He offered the assistance of the Division in designing the grounds to be improved and in giving direction to the work, both practical and artistic, to any college wishing to civilize its surrounding grounds. Responses received from various leading educators demonstrated quite forcibly the interest felt in so progressive an educational departure. It was only the intervening change of administration that checked-mated the far-seeing suggestion. How many beautiful and instructive groves of useful and ornamental trees might have in the meantime grown up around the stately halls of science, while the faculties were asleep and professors of botany and horticulture manipulated their microscopes and spraying devices! How many bright intellects of the flower of the American youth might have taken away with them all other useful learning a love of trees and cultivated home grounds, and have the glimpse into the future destiny of American forestry, the imperative necessity of which the new century will force on the intelligence of the Nation. Let scientists, monopolizing the wires of popular and higher education, remember that mighty acorns from little acorns grow, the higher critics, so often befogging human efforts, to the contrary notwithstanding. K. G. M., St. Louis, Mo.

#### COW PEA THRESHER WANTED.

Editor RURAL WORLD: I notice in your issue of June 12 that Mr. Orville Dobbins of Effingham Co., Ill., wants a cow pea thresher—so do I, and so do many others. At present all over the south—the home of the cow pea—in order to save seed we are obliged to pick the pods and then thresh by hand or run the pods through a hand machine, which way is too expensive. I have no doubt that the large bean threshers used in Michigan and New York would answer the purpose, but they cost too much for the south. What we want and must have is an inexpensive machine but which would not require more than two to four-horse power, that would thresh the peas from the vine.

Any manufacturer who can furnish such a thresher as I have indicated, and would let it be known in the south, I am confident would be surprised at the demand. W. S. THOMAS, Pulaski Co., Ark.

#### LACLEDE COUNTY, MO.

The dry hot weather and the chinch bugs are getting in their work. Our meadows are not more than 15 to 20 per cent of a crop. Our wheat, what there is of it, in quality is extra good; the yield is 33 to 40 per cent less than an average crop. I have in about 25 acres of oats, and I will not cut or attempt to cut over 15 acres. In many cases oats are so short that they cannot be cut with a mower. Corn is well worked, all of it three to five times, but unless we get rain soon it will be as short a crop as wheat, oats and grass are. Clusters and stock ponds are going dry rapidly. Pastures are bare and many farmers will turn stock on oat fields and meadows. Apples and peaches have stood it the best of any crop, especially where orchards have been well cultivated. How much longer they can stand it is a problem. I have lived here 17 years, and never have we had so dry a May and June as this has been. Where farmers have had wheat or rye adjoining fields of corn, the chinch bugs have gone from the wheat and rye fields to the corn. One of our farmers started spray pumps and sprayed his corn with Paris green. I have sent the RURAL WORLD many letters, but never one with quite so gloomy an outlook for the farmer as this one. A. NELSON, June 22.

#### PEBBLES FROM THE POTOMAC.

Editor RURAL WORLD: A map unique in its characteristics is being prepared by the Government that promises to be of benefit to the farmer. It will be a map of the soil, which will be the work of agricultural experts. The object in view is to chart the whole country with reference to suitability of soil for various crops, thereby doing away with guesswork as to what particular crop is adapted to particular soil and locality. This map will be printed in colors, and will be so plain that no difficulty will be experienced in comprehending the information sought to be conveyed. The entire map will be on such a scale that every ten-acre patch will be represented by one-eighth of an inch square. A large chart of each neighborhood can be procured by a farmer, with the object in view that he can arrange his planting in accordance. The work is done by townships, which put together farm counties, and eventually the entire State is charted. It is expected that by this system the farmer can eliminate the element of guesswork, as formerly he arrived at results from experiments. With the chart he will receive advice, based on the highest scientific knowledge, as to what is the best crop to put in to get the greatest results. The soil map will show what kind of agricultural industry any given locality is best adapted for—whether fruit raising, vegetable growing, dairying or general farming. Thus it will be seen that similar soils in distant localities, where the climate is similar, can be used advantageously for like crops. The map will deal with certain troubles of soils, which have been investigated through chemical analysis, and will be replete with valuable suggestions remedying the evils. The map promises to be of real value, and is in keeping with the advancement of the magnificent agricultural development of the day.

IRRIGATION.—Prof. Meade, of the Agricultural Department, in his testimony before the Industrial Commission a few days ago, said that irrigation is necessary in two-fifths of the area of the United States to make farming profitable. He did not consider it a sectional question, and pointed, as an example, that in the past few years irrigation had redeemed in Louisiana and Texas an area larger than some New England states, causing an increase in the value of land to a considerable extent. Prof. Mead says there are no fewer than 75,000 irrigation ditches in the United States, costing over \$200,000,000. He believes the government should encourage this work by reclaiming sections that would eventually give homes to many. We agree with the professor, and predict that the day is not far distant when the government will reclaim many acres of now useless land.

OUR EXPORTS.—The May Bulletin, issued by the Bureau of Statistics, shows that we are gradually increasing our trade abroad. Every cent of these millions has been paid to the farmers, and effectually refutes the saying that the farmer is never in favor of his own country. A few figures from the report will tell the story of our export trade:

	Amount.	May, 1900.
Breadstuffs .....	\$25,723,135	\$2,350,000
Cattle and hogs .....	3,500,253	900,000
Provisions .....	16,188,064	2,250,000
Cotton .....	17,139,836	5,000,000
Mineral oils .....	6,464,235	.....

The report says that during the last eleven months the total exports of these articles amounted to \$130,816,163, as against \$714,227,315 for the same period last year. Eight hundred and ten million dollars is a neat sum to be distributed among a comparatively few farmers of the United States, and besides, this represents only what was sent abroad—a mere pittance of our bountiful supply. Is the farmer growing weary? From the above figures it makes it clear, that he is. The statistics are an eloquent evidence of the fact.

GOOD ROADS.—The question of good roads is a problem that is as old as the world itself. D. P. Hutchinson, of North Carolina, was in town recently and told how good roads are made down in his section. He says they have, in the neighborhood of Charleston ninety miles of macadam roads, which had been established at a probable cost of \$350,000. Convict labor was used to construct these roads, as free labor would cost from 30 to 60 per cent more. That the saving in cost to rolling stock was more than equal to the cost of the roads, and that the value of farming land lying along the improved highways had been enhanced 50 per cent since the construction of the new roads.

A HONEY MINE.—Senator Carter of Montana is certainly a lucky man, as the following article, taken from last Wednesday's "Daily Post," will prove: A swarm of bees has made a hive of the home of Senator Thomas H. Carter, of Montana, in this city, and packed with honey the entire space between one of the floors. Hundreds of pounds of the sweets have been taken out within the past week by Mrs. Carter, who says it is the most delicious honey she ever tasted. This represents but a small portion of the store which the bees, to Mrs. Carter's own knowledge, have been accumulating for more than three years. It has all so far been taken from one or two sections

of space between the joists, while the others are believed to be equally as well packed. All the members of the family, and even the Senator himself, have become honey miners. The bees made a valiant defense of their stronghold, and were only driven out eventually when the fumes of sulphur were blown upon them. The Carters live in a handsome three-story and basement brick at 1422 Staughton street, and their neighbors have besought Mrs. Carter to let the bees remain and supply them with honey.

"Three years ago last month," said Mrs. Carter, "my cook said that she suspected that the bees had a hive somewhere in the house. She noticed many of them about. I did not, however, give the matter any credence and forgot it. Repeatedly since then the cook has spoken of seeing the bees flocking around the house. One day last week as I sat in my room I felt something on the back of my neck, and putting my hand there was startled to find a bee.

"We made an examination on the outside of the house and found that one of those iron caps that are put upon the chimneys, which were left open, leaving a small space clear through our wall, up near the third-story front. I sent for a carpenter and had him saw out a section of the floor of that room. Imagine my surprise when I saw honey solidly packed, extending along the space between the joists and reaching from the ceiling below to the floor above it, a height of fully fourteen inches. But first, I should have said we had to smoke out the bees with sulphur. We got out all the honey so far as it could be reached, and then the carpenter cut away more of the floor. There was more yet in sight. In all we took out several hundred pounds, and then as I found we were carelessly letting it drip over the contents of the room I had the carpenter restore the floor. There must be many hundred pounds yet under the floor, but I am not ready to disturb it yet. I've let the bees come back to their hive, and when we move away our successor or the landlord will be able to stock his table for a long time to come."

S. F. GILLESPIE, Washington, D. C., June 16, 1901.

#### SKUNKS, GRUBWORMS AND MOLES.

Editor RURAL WORLD: I sowed a plot of land to timothy last fall and failed to germinate. This spring I disked it well and drilled in Redstart barley. Ever since the barley came up we have been noticing yellow spots, in some cases two or three feet long in the drill rows the plants being eaten off just above the seed grain. Inspection showed from one to six grubworms for each yellow spot and the barley is damaged fully 30 per cent. A few days ago I was passing the barley when I saw dozens of round holes where the grubs had been; in a few days the dozens were hundreds, and to-day I counted 64 holes in less than 250 feet of drill row. Every one of these holes was dug by a skunk and from every one of them the skunk had extracted a fat worm. The skunks have not dug where the grain is fresh and green, only where the worms have turned it yellow, and from the looks of the field there must have been several of them at work.

When I remember that a worthless, drunken trapper less than two miles from me slunk last winter over 100 skunk skins, I am glad to know that none of them came from our farm, as I forbade him to come on the place.

I know that the skunk kills a chicken now and then, but if he does as good work as he is now doing he earns it, and mine can have the best hen on the farm if he will only come to the house and get it.

The damage to my barley amounts to at least \$25, and this will buy 100 three-pound chickens. The thousands of worms eaten by each skunk will be saved the trouble of laying their eggs this summer after they have developed into beetles; and the wing cases found in the fields attest the fact that the skunk's work does not stop as long as he can find worm or beetle. It is a plain case of Mephitis mephitis, versus Lachnostenia fusca, and the finding of the court is in favor of the plaintiff. Protect the skunk.

MOLES.—A neighbor says that seeds of the castor oil bean dropped in mole runs will kill them. He says that he once had a small orchard where moles were very plenty. He used half a pint of the beans, and in five or six days the dead moles were so plenty that there were hundreds of blow flies about the orchard. I give this as it was given me. C. D. LYON, Brown Co., Ohio.

CHEROKEE N., IND. TER.—We are having our first summer weather this week, and corn is just jumping out of the ground, but is more backward than I ever saw it at this season in this country. Wheat harvest is in full blast, and threshing will begin next week. Wheat is a fair average crop, but had much cheat in it. Oats will be a good crop. Fruit of all kinds promises well. Strawberries were fine. There is going to be an immense crop of blackberries. We are having timely showers and some hail in vicinity. The RURAL WORLD is a welcome visitor at our house. June 14. C. C. FITZSIMMONS.

There is no section of country where some variety of every kind of fruit will not do well. Experiment with fruit until you find varieties suited to your locality.

#### AGRICULTURE IN RURAL SCHOOLS.

Can any system be perfected that will make the teaching of the elementary principles of agriculture and horticulture in the country district school a success? A great deal of theory has been advanced on this subject and it seems clear to the writer that it is now time to show by actual trial whether or not this can be done. There will be difficulties to overcome, it is true, and mistakes will be made no doubt, but it is certainly worth an effort upon the part of all interested in educational work in this State.

PREJUDICE TO OVERCOME.—A great many farmers think the only way to learn how to farm is to get a practical training in the field and among the stock, and that what is taught in school can be of very little value. A great many farmers think because they have made a success without any school training that others may do as well. This may be true, but if success can be attained without any special knowledge of plant growth and plant breeding, or insect life and animal life, how much greater degree of success might be attained with a knowledge of these things, such as might be obtained in school. It is very much like two men of equal ability starting in business, one with capital and the other without means, both may succeed, both may fail, but certainly the one with capital has a great advantage over the one without it.

WRONG CONCEPTIONS.—One cause of the belief that the teaching of agriculture or horticulture in the district school is not practicable, is a wrong conception of what is to be taught. Some believing that it is meant to teach farming in its broadest meaning will offer the objection that many of the teachers of the district schools are young women who have no practical knowledge of field work, or young men perhaps who have been brought up in town and therefore are not qualified to instruct the children in this work. The farmer must study a great many questions. A lifetime is too short to go into the details of all of them. The teacher who has a knowledge of botany or entomology, whether she ever saw a farm or not, should be able to give instruction in plant growth and plant breeding or in insect life that will start the child on a line of investigation that may be of inestimable value to him in his work on the farm.

QUALIFICATIONS OF TEACHERS.—What we have said leads up to the qualifications of teachers for the rural schools. If the farmers will insist upon the employment of teachers who are competent to direct the study of these subjects, the teachers will not be long in preparing themselves for the work. The State University and a number of other schools in the State offer splendid opportunities to the teachers and if they will avail themselves of the advantages offered, their efforts will no doubt be rewarded by an increased demand for their labors with better salaries.

PLAN AGREED UPON.—To perfect a plan for introducing this work into the rural schools, a meeting was called in the Agricultural Building of the University, on May 17, attended by the State Superintendent of Schools, the Secretary of the Board of Agriculture, and the faculty of the College of Agriculture. The plan of the State Superintendent for introducing Nature Study into the schools was unanimously approved, and in order to have the work in the rural schools lead up to the study of agriculture, it was decided to have prepared some helps for teachers in the rural schools. Carrying out this plan we publish in this issue of the "Bulletin" the article on Nature Study in Public Schools by State Superintendent W. T. Carrington, and Guide to Insect Study by Prof. J. M. Stedman, which will be followed in some future Bulletin by an article on the Study of Plants by Prof. Charles Thom, Lessons in Horticulture by Prof. J. C. Whitten and the Study of Soils by Prof. H. R. Smith.

Note.—Owing to unavoidable circumstances these articles can not be published in the order first agreed upon, but will all be out in time for use in the schools the present school year.

TO ASSIST THE TEACHERS.—The State Superintendent and his assistants, and some of the teachers in the College of Agriculture will give instruction on the above subjects in a number of the summer schools and teachers' institutes, and it is hoped that we will be able to report good progress in this work the coming winter.

HOW OBTAINED.—These articles will be published in the Monthly Bulletin of the State Board of Agriculture, and some of them at least in the "Missouri School Journal," for the benefit of teachers and school officers and patrons. Several thousand copies of the Bulletin will be printed and will be sent free to any address in Missouri, upon application to the Secretary of the Board of Agriculture.

GEO. B. ELLIS, Mo. State Board of Agriculture, Columbia.

NEW MADRID CO.—Wheat is about all harvested at this date (June 21) and has gone into the shock in splendid condition. Threshing will be general by the 25th, if the weather continues good. The berry will be of high grade. No. 2 corn is well cultivated and very healthy. Some few localities have not had sufficient rains since April. L. C. PHILLIPS, June 21.

# The Dairy.

TO ABOLISH THE OFFICE.  
OF City Milk Inspector.

The St. Louis Health Commissioner, Dr. Starkloff, has advised the city Municipal Assembly to save the money that is usually expended in maintaining the office of Milk Inspector, on the ground that the office as conducted under existing laws is of no value to the public. That the office is of little or no value to the St. Louis consumers of milk we are well aware; not that the consumers are not in need of the service of a Milk Inspector, but simply that by lack of law or proper enforcement of what does exist, the consumers of milk in St. Louis have practically no protection through the office of Milk Inspector from fraudulent or even criminal practices on the part of milk dealers. In proof of the fact that there exists a great need for such protection, we present the following which appears in Volume VI. of the Report of the Industrial Commission on the Distribution of Farm Products on:

**THE MILK TRADE OF ST. LOUIS.**  
Assuming that the census now being taken will show that St. Louis has a population of 600,000, the daily per capita consumption of milk in this city is two-thirds of a pint, or a total of 30,336 gallons. Of this quantity 12,000 gallons are "railroad" milk, the remainder being brought into the city by wagons from territory adjacent to the city, or produced from dairies located within the city limits. In these latter there are about 8,000 cows that are kept for commercial milk purposes.

**CITY DAIRIES.**—As affecting the milk supply of St. Louis the city dairies are a very important factor. As already stated, the larger part of the city's milk supply is produced in these dairies that are located within the city limits, many of which are in densely populated districts. The condition is one which probably can not be found to exist in another city of equal population in the world.

The basis of the city dairy business is the offal from the extensive breweries and distilleries located here, the spent grain from these being utilized for food for the cows. This refuse from the breweries comprises, in the majority of cases, a large proportion of the food given the cows. No attempt is made by the brewers to rid this waste product that is disposed of locally of any of its moisture, which comprises 75 per cent of the total waste, and it is fed by the dairymen generally in the form of slop or a semiliquid condition from water-tight mangers, and often constitutes the cow's sole ration of food and drink. As might be expected, the food, being in a warm and fermenting condition when obtained from the breweries, becomes quite sour before it is consumed by the cows, and the cow mangers and the entire premises reek with germs of fermentation.

The cows are, for the most part, kept in very cramped quarters in many instances confined in pairs in such narrow stalls that only one can lie down at a time, and are kept there from the time they become members of the herd until they die in the stalls or are sent to the shambles. After a cow gets used to the lack of exercise, the liquid fermenting food, and moist hot atmosphere, it is said that she takes on flesh and gives a good flow of milk. Whether the flesh and milk are such as will make wholesome food is a matter for consideration by the city health department. We have to consider just now the effect of this system on the city milk supply as a whole.

Unquestionably the enormous output of spent malt from the extensive brewery interests in this city is the most potent factor of all affecting the St. Louis milk supply.

Under proper conditions and in combination with other foods, spent malt is a valuable dairy food. It is rich in nutritive elements needed to induce a good flow of milk, and it is much relished by cows. Even in the wet state it may form a part of the cow's ration with good advantage, if fed fresh and under conditions which will not induce fermentation in the cow's stomach. But these conditions are practically never obtained in the city dairies. Unless the spent malt is dried, the excess of water makes the weight such that it is out of the question to transport it by rail to the dairy districts. The dried grain is highly regarded as a dairy food. It can be and is exported from this city to Europe for feeding purposes. Only two of the breweries in this city make any effort to dry this spent malt. The dried grain commands a price of about \$12 per ton f. o. b. St. Louis. At this price it is a cheaper food than are oats, wheat, bran, corn, or other food stuffs in common use at prevailing prices. But the wet grain is sold to local dairymen at such a price that a quantity sufficient to make a ton of the dried grain costs about \$5.00. Thus it is apparent that the city dairymen has the advantage of a very cheap cow feed.

There are about 450 dairymen in the city. What it costs them to produce a gallon of milk it has been impossible to accurately ascertain. Estimates, however, fix the cost at 10 cents per gallon, and the average selling price of the city produced milk is 20 cents per gallon.

The producers of country milk can not compete with these prices, and can only find customers for their product among that portion of the city's population that is willing to pay a larger price for goods of superior merit. The milk business is divided, therefore, quite distinctly into two divisions. The one includes the city, or "swill" dairy, as it is called, and the other the "railroad" milk, or that produced on farms and brought into the city by rail. A comparatively small quantity of milk, but of good quality, is produced on farms close to the city and brought in by wagons. This may properly be regarded as railroad milk, at least in respect to quality.

When the butter granules have reached the right size the buttermilk should be drained off, and the butter thoroughly washed with pure, clean water at a temperature of 50 to 60 degrees F. This should be continued until the water coming from the butter ceases to have a milk appearance.

**Calf Scours** Hood Farm Cured Digestive Powder do the work. Several cases cured. Each Remedy, \$1; large (four times dollar size) \$2.50. Sent to any railroad express point in U. S., 25c. extra. C. L. HOOD & CO., Lowell, Mass.

## CREAMERY BUTTER

At the Pan-American Exposition.

In the June 15 issue of the "Chicago Produce" we find the following with reference to the May butter contest at the Pan-American Exposition:

"From the list in hand it appears that an entry from Hoard's Whitney Factory, Fort Atkinson, Wis., won sweepstakes over all entries with a score of 97.75. However, these figures are unfortunately blurred and therefore may not be correct by read. Wisconsin also secured fifth place, Wm. M. Van Lier, Woodworth, scoring 95.50. New York takes second and fourth place with scores as follows: W. E. Hitchcock, Savannah, 97, and Rosemary Creamery, Adams, 96.25. Third place is won for Ohio by Benj. M. Rutan, Maryville, score 96.75. Honors of sixth place are divided by Cornish Creamery Co., Cornish Flat, New Hampshire, and W. J. Harrison, Boston, Mass., each scoring 95.50. Minnesota takes seventh place, Lewis Lawrence of Sundown scoring 95.25, and divides honors of ninth place with Iowa on score of 94.75 won by C. J. Bang, Blaine, Minn., and Peter Peterson, Elkhor, Ia. Eighth position goes to Connecticut on score of 94 won by F. L. Ives, Goshen, and Michigan secures tenth place on score of 94.50 won by H. A. Shellenberger, Centerville."

"The states sending creamery butter and number of entries are as follows: New York, 23; New Hampshire, 22; Wisconsin, 21; Minnesota, 19; Ohio, 10; Connecticut, 9; Missouri, 6; Iowa, 5; Michigan, 5; Massachusetts, 5; North Dakota, 2; Pennsylvania, 2, and Vermont 1—total 130. The Guelph dairy school, Canada, sent three entries scoring, respectively, as follows: 93.4, 93.75 and 96."

"The next contest at the Pan-American will take place July 10, and a more representative exhibit is looked for both as to quality and number of exhibits."

We have no information as to what Missouri is doing in the dairy line at the Exposition other than as stated in the foregoing, that there were six entries of creamery butter from this state. Since the foregoing was put in type, we find in the "New York Produce Review" of June 19, the official list of exhibitors and scores, and from which we learn that the highest score on butter, 97, was made by a New York entry, W. E. Hitchcock, Savannah, N. Y.; the next highest being 96, on the entry of Benj. M. Rutan, Montpelier, Ohio, while New York captured the third place with a score of 95.4, and had two entries that were scored 95. Wisconsin's highest score was 96. New York and Connecticut each had entries that scored 96.5, Wisconsin and New Hampshire got a 96.5 score, and in the 96.5 class New York had two entries, Minnesota and Connecticut one each. In the 96 class New York had three entries, Wisconsin and Connecticut two, New Hampshire and Missouri one each. Nine states were represented by numbers of entries as follows: New York, 46; New Hampshire, 40; Wisconsin, 21; Connecticut, 20; Minnesota, 19; Missouri, 14; Ohio, 11; Michigan, 8, and Massachusetts, 2.

Missouri and Minnesota are the only states west of the Mississippi that were represented. Minnesota, which ranks as one of the great dairy states, had five more entries than Missouri, and her highest score was one-fourth of a point higher than Missouri's highest.

Missouri is the only state in the list that had more dairy than creamery entries. The state's entries and scores are as follows:

**CREAMERY BUTTER.**  
St. Louis Creamery Co., St. Louis..... 88  
Corder Creamery Co., Corder..... 87 1/2  
Garden City Creamery Co., Garden City..... 86 1/2  
J. J. Smith, St. Joseph..... 86 1/2  
Corder Creamery Co., Corder..... 86 1/2  
St. Louis Creamery Co., St. Louis..... 85 1/2

**DAIRY BUTTER.**  
L. E. Shattuck, Stanberry..... 96  
Mrs. Wm. H. Hatch, Hannibal..... 95 1/2  
Nathan King, Hannibal..... 95 1/2  
Nathan King, Deer Park..... 95 1/2  
Mrs. W. H. Hatch, Hannibal..... 94 1/2  
John Patterson, Kirksville..... 94 1/2  
H. C. Goodrich, Calhoun..... 92 1/2

Missouri made a creditable showing comparatively, yet nowhere near as good in number of entries as could have been secured with proper effort. The scores, considering the time of the year, speak well for Missouri dairymen, and show what can be done in this state with proper encouragement, and what may be expected in 1902 at St. Louis.

**THE DAIRYMEN'S IDEAL.**

Editor RURAL WORLD: The system of dairying from the securing of the calf to the placing of the product upon the consumer's table has undergone vast improvements within the last 30 or 40 years, and we predict that the end is not yet. When we take into consideration the haphazard method of breeding, the valuing of all milk as cow's milk whether rich or poor in butter fat, the estimating of the temperature of the cream by the hand, determining the ripeness of the cream by licking the finger after drawing it through the cream, etc., all of which so long prevailed on dairy farms, to say nothing of the other departments connected with dairying, we are surprised at the rapid advance made in so short a time. The new methods of dairying lessen the labor and give the farmer the regular monthly returns.

The consumer looks to the creamery for his regular supply of butter of a desirable quality. Hence the creamery has gained its good name, while the so styled farm butter has lost prestige. This result to home-made butter is not as it should be. We see no reason why, with the advanced system of manipulation, that the farm-made butter should not excel a creamery make. Among private dairymen there are cases that prove that a superior quality of butter can be made. If one man, why not another? Undoubtedly all of us have not the capability or the natural conditions essential to reach the top-notch in dairying, but assuredly the majority can make great improvement.

The deep-setting system was an improvement over the shallow pan and the use of the separator is an improvement over the deep-setting can. The same is true of the neat, creamery pound print when compared with the old-fashioned roll of all weights.

Labor saving devices have been invented for all lines of industry, and these enable products to be placed on the markets of the world with less expenditure of time and energy; and the dairy industry has had its full quota of useful apparatus. These contrivances are being forced upon the attention of dairymen. The inventors have had an ideal in view, and by persistence have accomplished their purpose. The mechanical inventor stops not un-

til he sees the successful accomplishment of his design. Why does not the farmer arouse his half-dormant brain, and set his ideal so high that nothing short of the highest yield per acre, the best stock, and the products of the highest standard from his cows will satisfy his ambition? The results undoubtedly will reward his endeavors, and create a demand for his product. In the ideal dairy butter will be put in pound prints. The man who desires to have a model dairy will study the cow and the calf, will strive to have the best milk, which will make the best butter, which will secure for him the best price. He will give the cow the best care and feed and will wisely manage the output.

That the creamery has been of great advantage to the farmer is unquestioned; and the stimulus it has given is manifest in the desire to increase monthly dividends by the way of the "butter-fat route."

JOHN BETHUNE.  
Lancaster Co., Neb.

## SUMMER BUTTER WITHOUT ICE.

Here in southeastern Kansas one cannot depend on natural ice, as we seldom have enough cold weather to freeze ice thick enough to put up for summer use. Neither is our water in the wells as cold by several degrees as it is in Ohio where we formerly lived, says M. E. King in "Ohio Farmer." But we have managed to get along very well without ice. We never used ice until last fall, during a heated spell of five weeks the latter part of August and first of September, and during that time it cost us about \$2.50 so that I naturally conclude that while it is only in extremely hot weather that it is essential to butter-making, when one is prepared otherwise.

Our well is under the same roof as the dairy room, but in a separate room. In the dairy room we have a wooden tank made out of 1 1/2-inch lumber, 10 feet long, 22 inches wide and 18 inches deep, with tight-fitting cover. In this tank we have (made out of galvanized sheet-iron) two tanks two feet long, 16 inches deep and 18 inches wide. These inner tanks are of course spaced in the large tank so as to be surrounded with water. The first one is placed two feet from where water enters the large tank from the pump, and in this space the cream cans are set. The second small tank is 14 inches from the first, leaving a space here for butter or cans; this tank complete, outside of my labor, cost \$3.50.

But the secret of making summer butter without ice is not all in this tank by any means; it is only one of the factors. During the summer our churning is done early in the morning before the air gets warm, care being used not to over-charge. The thermometer was out, never worked out, and this should always be remembered—that soft butter must not be worked, as it means ruin. The salt is added, stirred through the butter thoroughly; then without any more working the butter is taken from the churn and packed solid into jars or butter cans, and set in the inner tanks, or placed in the space between them, to harden.

Our butter is delivered every Thursday morning. On Wednesday morning before we take the butter from the packages where it was put from the churn, and print in one pound prints, wrap prints in printed parchment paper and put them in wooden boxes made to hold, snugly, 30 one-pound prints. These boxes when full are again set on edge in the inner tanks to harden until the next morning, when they go to market. I am asked how they do by our customers, over and over again, "how do you manage to keep your butter so firm during hot weather without ice? I generally tell them it's the 'know how' that does it."

Our butter is used by about 75 families in a town of 9,000 inhabitants. They are, as a rule, people who are able and willing to pay a good price for what suits them. They buy our butter with the understanding that if at any time it is not as good as the best we guarantee this in print on every wrapper they can return the butter and get their money back. We say, with at least a little pride, that we have never had but one pound come back, and the returned butter showed—no smell—that the cause of its condition was the fault of the buyer rather than the maker. It seems to me that if we get such results without ice, as a rule the private dairymen can get along very well with ice only in exceptional cases, and at a cost within the reach of any farmer. Our tank and fixtures will accommodate 30 cows, but our skimming is done with a separator, so we have only the cream and butter to care for.

## DAIRY DOTS.

Cream ready to be churned has a smooth, granular appearance, with a rather sharp, acid taste. When cream reaches this condition it should either be churned at once or cooled down to about 50 degrees F. and warmed to 58 or 60 degrees when churned.

Cream should be churned at as low a temperature as possible, and have the butter come in from one-half to one hour. Warm cream and rapid churning mean a large quantity of butter lost in the buttermilk, as well as soft butter which is very hard to handle after it comes.

If the local market calls for colored butter, the coloring matter should be put into the cream as soon as the latter enters the churn. The ideal color for butter is that produced naturally under June conditions, where the cows have an abundance of fresh, green grass. At no time of the year should we attempt to give butter any higher color than this.

We have smokeless powder and horseless carriages and useless worry, but the latest is "noiseless" butter, as advised by a dealer in Indianapolis. His wagons have rubber tires, his employees wear rubber-soled shoes, and his customers are supplied with little rubber mats on which the milk cans are noiselessly placed. Anyone can see, however, that there is something wanting in the advertisement, and that is the picture of a man standing noiselessly to the pump to make the supply of pure milk equal to the demand.

To hasten the ripening or to get the right kind of lactic-acid germs, starters are used to advantage. These may consist either of buttermilk, sour skim milk or especially prepared commercial starters. Starters on the farm can doubtless be best procured by using milk or skim milk. Select a good healthy cow, put her milk into a well-secured can and keep at a temperature of 55 to 60 degrees until it becomes clabbered. Then use about one part of starter to nine parts of cream. The cream may be kept at a temperature anywhere from 60 degrees to 75 degrees F., if care be taken to cool it down as soon as the right quantity of lactic acid is developed.—Dairy and Creamery.

## THE COST OF MILK.

A great deal has been written upon the cost of milk and will continue to be written, for so much depends upon the price of foods, their combination in proper form, the ability of the cows and the ability of their owner as well. Perhaps no one has made a closer study of the cost of producing a pound of butter fat than Prof. T. L. Haacker of the Minnesota Experiment Station. For nine years he has been at this work and at a recent convention briefly summarized his work as follows:

The first year, 100 pounds of milk cost 60 cents, while the price of feed stuffs was about the same as now, and the yield of the herd averaged very fair, namely, 6,000 pounds of milk, or 180 pounds of butter fat. The second year the cost was about the same, 61 cents per 100 pounds of milk, but in the third year it was reduced to 58 cents per 100 pounds with the same cows, and prices of feed-stuffs the same. The only difference was that they had calculated the percentage of protein, and selected the foodstuff where this was sold the cheapest. He did not care for carbohydrates, fats, etc., as protein is the only essential part to look after. The cows require on an average, two pounds of protein per day. Seventy per cent of this is used for maintenance by a 1,000 pound cow, and, in round numbers, it requires 1.1 pound to make one pound of butter fat. He now divides his herd for feeding into sections; one gets 2.25 pounds protein, one two pounds, one 1.75 pounds, and one less than 1.5 pounds. The cows give from 30 pounds down to 15 pounds of milk per day, and the cost of feed is calculated accordingly, as giving the 15-pound cows 2.25 pounds will not increase their yield. Having thus given the cows the necessary protein, they may fill up on roughage, and the 15-pound cow requires as much carbohydrates as the 30-pound cow. Owing to change of forage, he has had a lot of accidents in the herd, but even last year, when feedstuffs were higher than ever, the cost of producing 100 pounds of milk had only been 37.5 cents. Ensilage is the foundation feed used, and the grain feed consists of five parts bran, five parts corn meal and two parts of new process gluten meal (which contains 37 per cent protein), and the rations are from five pounds to nine pounds of this mixture. It generally takes three pounds of ensilage and half-pound corn fodder for every pound of grain feed. If a cow's flow of milk drops off for some cause or other, he increases it by feeding roughage, besides the grain for a time, and then holds it by grain alone. Incidentally he mentioned a cow which failed to breed for four years, which gave 300 pounds of butter fat the fourth year, and seems to intend to keep up that gain.

## THE PAN-AMERICAN DAIRY.

The week ending June 11 a. m. shows another change in the standing of the breeds in the Pan-American Model Dairy, which is as follows:

Breeds	Butter Value.	Cost.	Profit.
1. Guernseys	15.72	6.53	9.19
2. Ayrshires	15.72	6.53	9.19
3. Holsteins	15.72	6.11	9.61
4. Jerseys	14.98	5.89	8.99
5. Red Polls	14.87	5.83	8.94
6. Polled Jerseys	13.35	5.08	8.27
7. Brown Swiss	14.59	6.75	7.84
8. Friesians	13.89	6.25	7.64
9. French Canadians	13.38	4.99	7.37
10. Dutch Belted	11.38	4.56	6.82

By the above we may note that with exception of the Polled Jersey and Shorthorns, all breeds showed a falling off in profit, the greatest loss being the Red Polls, with 99 cents loss, and Guernseys next with 88 cents loss. The Polled Jerseys, with 48 cents gain, accomplished the same on the very low average ration of \$1.06 per cow. The highest ration is 9 lbs. grain, the lowest 4 1/2 lbs., with about 25 lbs. ensilage and 5 lbs. hay. The Polled Jerseys stand a very good show in the contest, although the youngest cows in the barn. Pride's Favorite is making an exceptionally good record for a two-year-old.

The horned Jerseys are again in fairly good condition. Primrose Park's Prude (although losing in quantity of milk) gained 0.65 per cent in fat and thereby showed a gain in profit of 32 cents. She is gaining this week in her milk and should make an exceptional showing if she can hold the fat percentage of last week.

A review of the reports since the test began shows that the Guernseys, although still leading, have dropped gradually in their profit—the profit of the past week being \$2.09 less than their profit for the first week. While some of the other leading breeds have fallen off somewhat, the decrease has not been so marked as the Guernseys, which leads us to ask, How long can they hold the lead?

While the Shorthorns have kept at about the same profit since the first week, the herdsmen in charge, Mr. Sager, informs me that they are gaining in weight, and at 3 cents per lb. he expects they will make up quite a bit of the deficiency in the butter producing profit.

The churn test report for the past week is not yet made up for publication, it having been side-tracked for the fat and milk test. I find the samples of butter on exhibition scored as follows:

Breeds	Score.
Guernseys	96
Brown Swiss	95
Polled Jerseys	94 1/2
Jerseys	94 1/2
French Canadians	94
Red Polls	93 1/2
Dutch Belted	93 1/2
Shorthorns	93
Holsteins	92 1/2

The personnel of the working force of the Model Dairy since June 1 is as follows: Mr. Van Alstyne, superintendent; Mr. Tabor, bookkeeper; Professors Stonehouse and Goodrich, fat and lactometer tests, assisted by Mr. R. Montague. The churning is in charge of Mr. J. A. Ennis, of Pattersonville, N. Y., who is assisted by Mr. E. C. Welden from the Connecticut Agricultural College.—A "Jersey Bulletin" Man.

**THE HOLSTEIN-FRIESIANS.**  
HOLSTEIN MILK.—At the recent annual meeting of the Holstein-Friesian Association President W. A. Matterson, in his address, spoke of the vitalizing character of Holstein-Friesian milk, as emphasized in the address of Professor Carlyle of Madison, Wis., before the association at its last previous meeting, and his suggestion that "apart from the chemical properties of the milk it has a vitality, a vitalizing property peculiarly its own, attributable not alone to its correct balance as an article of food, but to

least, to have the brood sows run out on the ground during warm weather. The amount of manure that can be made from the progeny of even one sow, with plenty of material for the purpose, is an item worthy of the most careful attention, and will go far toward paying for the care bestowed on this kind of stock.

At the west the raising and fattening of swine is made a specialty of and on a large scale, regardless of the keeping of dairies, but here it can only be made profitable when pursued in connection with the keeping of cows. It is an adjunct to dairying, the leading industry of Vermont farmers, and as such adds materially to the receipts at the end of the year, as well as to the continual enriching of the soil.

In closing, I will give an instance, showing more particularly the profit that can be made out of this business when rightly conducted. A Vermont farmer with a dairy of 20 cows—full-blooded Jerseys—last year, after supplying the milk required for several calves, fattened and sold 30 pigs. Aside from the milk from the dairy, these pigs consumed three tons of corn meal at a cost of \$55. The first cost of the pigs was \$57. They were sold at five to six months old and averaged a little over 110 each, netting him \$210 after paying for the meal and first cost of pigs. This worked out an average of a little over \$10 per cow, which was indeed a most wonderful result. This farmer calculates that he gets from 25 to 32 cents per 100 pounds for the skimmed milk when fed to pigs in connection with the grain. Is this not a result worth considering and working for? So it would seem.

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## Horticulture.

### THE PLUM CURCULIO.

It is probable that the insect that caused Mr. Geer's plums to fall is the Curculio (*Conotrachelus nenuphar*), which works on the growing fruit up to the time the stones harden. Mr. Geer stopped the jarring too soon, and he says nothing about making any effort to catch the insects that should be shaken from the trees by jarring. A sheet should have been spread under the tree when it was being jarred; the curculios would have then fallen on this and they could have been destroyed; otherwise they will soon take wings and be again active at work on the plums.

The principal injury to the plum and to other fruits more or less by curculios is caused by the female in making a puncture in which to lay an egg, this soon hatching into a worm that eats its way into the fruit, causing it to decay and fall from the tree. The worm emerges from the fruit, enters the ground and there goes through the changes into the perfect beetle this season or next.

It is obvious from this that one way to protect the crops of subsequent seasons is to have all fallen fruit picked up and destroyed before the worms can emerge and enter the ground. Poultry and hogs if kept under the trees, will assist in this work, but their work will have its good effect on next year's crop rather than on the present one.

Orchards that are surrounded by woodland will be more troubled by curculios because the timber affords the curculios good opportunities for hibernating during the winter.

For a few trees, protection by jarring is the most efficient if properly done. In adopting this means advantage is taken of the habit of this class of insects when disturbed to "play possum." A sudden jarring of a limb on which a curculio is at work will cause it to fold its legs and snout, let go and fall to the ground. And if a white cloth be spread under the tree the beetles will fall upon this and can then be gathered and destroyed; otherwise, as stated, they will soon be back in the trees as busy as ever, and as each female will deposit from 150 to 200 eggs in a season, it is important that she be prevented from continuing her work.

To aid in the jarring, and at the same time prevent injury to the tree by bruising, a small limb should be sawed off square, leaving three or four inches long. Striking on the end of this stub with a heavy wooden mallet will do the jarring and not do any bruising of the bark of the tree. The jarring should be done in the cool of the morning, when the beetles are sluggish.

It used to be assumed that spraying was of no avail for curculios, but experience has shown that spraying with arsenite, Paris green, etc., is measurably effective and for large plantations should be adopted.

### HORTICULTURAL TALKS.

**SUMMER LAYERING OF GRAPE VINES WITH YOUNG WOOD.**—This method will be of no use where the ground is as dry as it is here. To do this the canes to be layered should have been laid down and kept straight as they grew. When a cane has grown, say six feet, pinch the end off. This will give the laterals a fresh start. When these have grown six inches lay the vine in a shallow trench five inches deep, pinching off the cutting at the tendrils. If the variety is a short-jointed one, cut out every alternate lateral. Lay the cane down so it will lay flat. Pinch off the lower leaves, except the largest one that starts at the base, and cover with fine earth, pressing it firmly. In a week or ten days set a little stake by each shoot, fill up the furrow level with the surface and much. Ordinary varieties will make good plants by fall; but such as the Norton, Delaware, etc., are difficult to root. But as I said before, there is no use in trying this method in a dry season, unless one can water well.

One asks what I call watering a lot of plants well. A two and a half gallon can full of water will give a square yard a pretty fair dose. If the ground is mellowed on the surface as soon as dried off a little, it will last for two weeks. Here the cistern is low and the spring is 40 rods off. This morning I have carried at least a barrel of water to keep a lot of budding plants from suffering. They are not mine, but the one to whom they belong cannot water them.

**THE PLUM CURCULIO.**—It seems that my paper on plums read at our late meeting is being commented upon as not having been quite the proper thing. Well, all have a right to comment upon it as they see fit. I simply stated facts and my experiences. Should I attempt to doctor it up, I would likely make it worse. I will not take offense at any criticisms on the subject.

**RUBEBECKIA (GOLDEN GLOW).**—For three years I have tried to grow this popular flower, but it seems sure to fail the third time. On examining the plant, I found a worm in the stem about three inches from the top. The top is dead down to the worm. It is similar to the worm found in the canes of raspberries. This happened to another plant that I have my doubts as to whether it is entirely killed, while mine may recover. Had I known of this enemy a little slug shot might have saved the plant. While the birds are protected here, the insects still seem to hold the fort. What would the result be if the birds were driven off or killed, as in many places? We have some of the sweetest singers in the land. The wood thrush, sometimes, I believe, called the hermit, sings so near us that it makes one feel happy. This bird is almost domesticated here.

**A SERIOUS OUTLOOK.**—There has been scarcely any rain for six weeks. The strawberry crop was greatly curtailed; the raspberry crop is threatened and the blackberry will share the same fate. I was told by one man that his loss on the strawberry crop for want of rain was more than \$1,000. Mine was not so great by hundreds of dollars, but I think the crop was only about one-half what it might have been. It would have been much less if we had not hauled barrels and barrels of water. The fact is simply this, that unless we can irrigate in dry seasons, the success of the strawberry is by no means certain. But two peaches seem to stand the drought, the peaches and grapes. They never looked better than now.

**WOODMAN SPARE THAT TREE.**—How often should this good advice be given? Quite a number of valuable trees on my place were left with the expectation that they would make something good. Just now I have a mulberry tree

that was grafted when small with a new white one that was considered worth growing. It grew and bore fruit that did not suit me. It was cut down and a post or two made out of the trunk. A shoot came out of the original root, and it is now twelve feet high. It has a beautiful top, bearing the largest mulberries on my place, and of good quality. From four pretty fair sized trees we can scarcely get enough to eat. The birds even disputing our right to any. A little account of our birds that please the young people, may soon be given.

**HAMMOND'S SLUG SHOT.**—Where can I get it? It is asked. From any seed or agricultural implement store. To use it, dust any plants infested with insects, and it will drive and keep them off. One pound in five gallons of water and sprayed on will also answer the purpose. If you wish to be prepared to fight insects on every line, send for Hammond's catalog, which will give you all the information you want. His advertisement is in the RURAL WORLD. Ben Hammond, Plunkett, the Hudson, N. Y., is the address. I am never without this Slug Shot on hand.

**PALATIAL RESIDENCES.**—I often wonder why some rich St. Louisans don't secure some of the grand situations on these bluffs—views almost unsurpassed, pure air and superior fruit locations. There are two such on the M. & T. railway, within a 15-minute walk from the station, that I would own if I were not so old and where I would spend my last days, above the fog and malaria of the Missouri River. I am no land dealer, but if any of the RURAL WORLD readers wish information or to be shown around, I am at their service. **SAMUEL MILLER.** Bluffton, Mo.

### THE SUMMER MEETING

Of the Missouri Horticultural Society.  
(Continued from last issue.)

The program for Wednesday night's session was interspersed with music and recitations that added interest to the occasion which was much enjoyed by the audience that packed the hall. One of the notable features of the program was the recitation by the young daughter of D. A. Robnett. It was given in costume, and was an old lady's protest against spitting tobacco juice on her floors. The recitation was thoroughly enjoyed by the audience, and none more so than Major Evans, who, when he fell the part of representing the old lady's tobacco chewing husband.

The "Bridge Builder" was exceptionally well rendered by one of the young lady teachers in the New Haven schools. The piano solo and the sither solo were both very pleasing. Secretary Goodman read a sketch of "Johnnie Applesseed," that strange character who years ago in the pioneer days of this country, planted apple orchards in what was then the Western wilderness.

"PRINCIPLES OF FORESTRY" was the title of a good paper by Miss E. J. Park of Greene Co., Mo. We will have the pleasure of presenting this paper to our readers in an early issue of the RURAL WORLD.

Mr. H. C. Irish of the Missouri Botanical Garden, St. Louis, discussed the subject of Forestry from a somewhat different standpoint. We hope to be able to publish his remarks.

Miss Goodman read the paper written by F. W. Closs of St. Louis County, which was awarded the first prize in the contest between students in Horticulture at the Agricultural College. The subject of the paper was "The Peach Orchard," which was in cash, was put by Mr. Closs into nursery stock, and planted in an orchard. Mr. C. is to keep an account with this orchard and so determine how much his prize money was worth to him as an investment when handled in accord with the instructions given him.

Thursday morning President Murray called upon C. W. Murtfield to open the session with prayer.

The Finance Committee reported, after which the Committee on Fruits submitted a report on the exhibits. The collection was not large, as to number of entries, Major Holsinger said, but was very fine as to quality.

**ON TO BUFFALO.**—The matter of a horticultural excursion to the Pan-American Exposition at Buffalo, N. Y., was taken up by the feasibility of arranging this so as to enable the party to attend the meeting of the American Pomological Society, which would be held in Buffalo September 12-14 was discussed. It is proposed to arrange for a special train to accommodate about 100, this train to start from Chicago about September 1 by a route that would enable the party to visit the great peach orchards of Michigan and Lower Canada, and the famous grape districts of Western New York. It was estimated that the cost per person for transportation, Pullman sleeper, meals en route and admission to the Exposition will be about \$45 for a two-weeks' trip if the party numbers 100.

**THE DEPARTED.**—In April last occurred the death of Capt. T. W. Gant of Marshall, Mo., for many years an active and beloved member of the Missouri State Horticultural Society. Prof. C. H. Dutcher of the Committee on Obituary paid a beautiful tribute to Capt. Gant's memory.

**WINTER MEETING.**—An opportunity was given representatives of different places to present claims for the next winter meeting of the society. Springfield and St. Joseph were the two active contestants for the honor. The decision in the matter was left with the Executive Committee.

(To be continued.)

### CENTRAL MISSOURI NOTES.

Editor RURAL WORLD: During my years of residence in Central Missouri, thus far has been the driest; we have had no rains worth mentioning, from early in April up to this date. Strawberries are about one-fourth of an average crop. We placed our first berries on the market May 14, and the last June 13. This is not a bad showing to be made without rain.

Cherries yielded an abundant crop of fair fruit.

Seldom if ever have the peach trees set so much fruit as they did this spring. I pruned my peach trees when they were in bloom, cutting away from one-half to two-thirds of the bloom. On June 15 I finished thinning them out, so there are but few, if any, closer than four inches of each other.

Apples promise about 50 per cent of a full crop; as usual, Ben Davis leads all other varieties in bearing. Raspberries and blackberries will hardly be over when picking this year. I planted out about 250 peach trees this spring by the Stringfellow method, with the exception that the ground was thoroughly cultivated before planting out, and has been since. A very few of the trees have succumbed to the drought so far. **A. J. D. Cole Co., Mo.**

### KANSAS FRUIT NOTES.

Editor RURAL WORLD: Early blackberries are getting ripe. The spring was very cool. Perhaps this will be all the better for the winter apples. I have just been pinching the ends off the Golden Beauty plum grafts I got from Samuel Miller, so they would harden their wood that the wind would not break them off. I have found this the best plan, as it checks the long, slender growth and ripens the wood. In a week or two they start out again, and the wind can not break them off.

The Missing Link apple grafts and the Paragon chestnuts I got of the Judge are doing well. The chestnut leaves look like those of the Pin oak. I sent him a dollar in stamps a few weeks ago. I would like to know whether he got it. I always read his articles with interest.

Mr. P. C. Brown of Montgomery Co., Kas., wants a remedy for the round headed borer. I have two. One is my own and one I got from the RURAL WORLD. Both will do the work. My wash is: Twenty pounds of resin, three pounds of lye, and three pints of linseed oil. Don't use grease, it will kill the trees. Put in an iron kettle and cover these ingredients with water and heat until all are dissolved. Then boil for 20 minutes. This should make about six gallons. When you are ready to wash the trees, take one gallon of the mixture and pour two gallons of boiling water into it. Stir well and add one ounce of Paris green or London purple. Apply with a paint brush to the trunk of the tree from the ground up to 15 inches.

**RURAL WORLD RIFE.** Four quarts of air slaked lime, two quarts of soft soap, one pound of sulphur, half pint of crude carbolic acid, and a double handful of salt. Mix about as thick as paint and apply with a broom. I found the following contrivance the best for applying the wash: Take the leg of old overalls, a two-foot length from it and turn over so as to be double, and fasten this to a broom handle. Then cut the cloth in strings. I dip this in the wash and slap it around the tree. The salt hardens the lime and it stays on all summer. I have tried the first remedy for five years and the latter for two years. Before using a wash, I lost over 400 trees, and have not lost any since by the wash. I wash the last of May and the first of June.

Mr. Brown, if you are not too far away, drive over to sec. 3, range 17, town 23, Dum Creek Township, and see my 18-year-old trees all healthy. **H. BELLAIR.** Montgomery Co., Kas.

### SOUTHEAST MISSOURI NOTES.

Editor RURAL WORLD: The prospects for a good crop of grapes is as good as I ever saw; our vines are all simply loaded down, and the bunches are large and well filled. The berries of Worden and Concord are about the size of buckshot. We sprayed once early, before the buds started, all the old wood of the vines, and also the stakes of the trellis; the second time just before the bloom opened. We intended spraying the third time, and may do so, but the weather has been so dry and warm. We don't apprehend any danger from black rot. We hauled decayed wood and leaf mould from the woods last winter, and mulched the vineyard, cultivated the top dressing in thoroughly with a Planet Jr. cultivator early in the spring, and have kept a dust mulch there all season.

**THE PLUMS.**—Our Abundance trees set a full crop, but have been dropping ever since. Some kind of an insect is constantly preying on them, and not only on the Abundance, but on the Damson, Wild Goose and some smaller ones; the latter they do not seem to injure so much. We have not sprayed the plums; I don't know what is best to spray with, or when to do so, to save this crop. We will try and learn by next year how to save the plum crop. We jarred the trees every morning for a week or ten days while in bloom, and for several days after bloom had fallen. Most all the plum trees are in the chicken yards, but it seems the insects that damage the fruit never reach the ground where the chickens can get them.

**THE PEARS.**—While the weather was wet and cool; also the early cherries. So the trees only set a small amount of fruit. The Keiffer are blighted pretty badly this season. Some growers advise cutting back and burning the blighted parts; others say the more you cut the worse it is for the tree. Our youngest pear orchard of 170 Keiffers and Garbers is in cultivated land, planted in 1892. The trees are all set in rows. The four-year-old trees are in clover sod. The blight is on the Keiffer. There are no signs of blight on the Garber.

**MULBERRIES.**—We have a good many native mulberry trees, and the fruit is now ripening. The birds and chickens are very fond of this fruit. Some trees are in the chicken yard. The Russian mulberry is like the Mariani plum, not worth the planting here, so far as the value of the fruit is concerned. The tree of either is ornamental, but I would rather plant a May cherry.

**WILD FRUIT AND NUTS.**—Last year the hickory nuts, walnuts and butternuts were almost an entire failure here; also the papaw was very scarce. The prospects are good for a full crop of nuts, all around this year.

**THE STRAWBERRY** season is about past for this year. The new set beds have had a pretty hard time to keep alive and grow. However, we have by thorough cultivation kept our growing, and they are setting lots of new plants now. We had two pretty good rains along the first days of June that helped me in securing a good stand of crop peas, wheat and Kaffir corn. **E. W. GEER.** St. Francois Co., Mo.

Plum trees do not generally require as much pruning as apple trees. Pruning should be done as early in the spring as possible, before the sap starts.

### FARM WAGON ONLY \$21.50.

In order to introduce their Low Metal Wheels and Wide Tires, the Empire Manufacturing Company, Quincy, Ill., have placed upon the market a Farm Handy Wagon, that is only 14 inches high, fitted with 24 and 30 inch wheels with four-inch tire, and sold for only \$21.50.

This wagon is made of the best material throughout, and really costs but a trifle more than a set of new wheels, and fully guaranteed for one year. Catalog giving full description will be mailed upon application by the Empire Manufacturing Co., Quincy, Ill., who also furnish metal wheels at low prices made any size and width of tire to fit any axle.

Editor RURAL WORLD: I am taking the liberty of writing you this personal letter early in the season in order to express to you the assurance of this department that it is desired that the full-est possible study be made of the horticultural facilities provided by the exhibits of the Pan-American Exposition. We have up to "Keep off the Grass" signs, but desire every horticulturist who feels that there is likely to be material here which he wishes to use, that we are not only willing but anxious that he avail himself of it. The immediate reason for writing this letter at this time is that a written request for information on the subject suggests that there may be a fear on the part of some that this department desires to be exclusive as to the use of such material.

The use of hand cameras with a plate not larger than 4x5 inches is permitted upon the payment of only 50 cents per day, or \$1.50 per week, and larger plates will be made by the Official Photographer at reasonable rates.

If there is any specific information which you desire at any time as to when certain fruits or plants are likely to be at their best for study, I should be very glad to give any information in my power.

Again assuring you of the wish of this department to render every assistance possible, and that the latch string will be hanging out with a good sized knob for the making it easy to pull. I am, very cordially yours, **F. W. TAYLOR.** Superintendent Division of Horticulture, Buffalo, N. Y.

**ILLINOIS AND MISSOURI APPLE GROWERS.**

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**ILLINOIS AND MISSOURI APPLE GROWERS.**

Quincy, Ill., June 20.—The Mississippi Valley Apple Growers' Association met here today. The meeting was usually well attended and was presided over by Henry Clay Cupp of Fall Creek. James Handly of Quincy served as secretary.

In this immediate vicinity it was the common opinion that there would be 50 per cent of a full crop. If this result should be reached, the crop will be twice as large as that of last year. This estimate is made in the face of the fact that in several localities the trees are bare, and in others not more than 10 or 15 per cent of the crop can be expected. In other localities in this district there is an assurance of full 75 per cent of a crop. Jefferson County reports it will have 60 per cent of a crop. It is noticeable that failure of the crops is confined chiefly to the old orchards, which is an indication that the younger orchards are receiving more intelligent care and attention. In the southern part of Illinois the crop is more promising than in the central portion. In Franklin county the crop is unusually heavy.

Isaac D. Sneedaker of Jerseyville, furnished a very interesting paper on "Spraying." Daniel Shank of Clayton, read an instructive paper on the "Propagation of the Ben Davis Apple." Dr. C. W. Rook of Quincy favored the meeting with a timely talk on the "Roots of Trees."

**SPRAYING THE RASPBERRY.**

A Paper by J. E. May, Adair County, Mo., read at the Late Meeting of the Missouri Horticultural Society.

As I have been growing the raspberry for commercial purposes but a short time, my experience is somewhat limited, and I am sure Secretary Goodman could have assigned the subject given me to some one who could have written a more interesting and instructive paper than I can.

I have always grown the raspberry for home use, both red and black, and never had occasion to spray until I came to Missouri, which was in the spring of 1892. On the farm we purchased I found the Turner red and some variety of black raspberries. These produced us one or two crops of fruit and then died out. I supposed winter killed. Not wishing to purchase without guarantee, I purchased 100 plants each of the Cuthbert and Hopkins, and put them out, giving good culture. They made a fine growth and I expected a fine crop of berries, but when spring came I found them nearly all dead. "Winter killed again," I said, and decided they were not hardy enough for this climate. I left the plants, however, hoping for a crop next summer. The plants made a fine growth, and I was glad to see them. Let me say that the Turner has never been affected with the disease, and is growing right by the side of the Cuthbert.

In the spring of 1897 I set out 1,000 plants of the Kansas raspberry and had great hopes of producing good crops of fine fruit, but found that the anthracnose had spread to them, though not nearly as badly, and they produced a fair crop in 1898. The new canes made a fine growth and withstood the extreme cold of the winter of 1898-9.

But finding that the anthracnose was getting a better hold each year, and concluded something must be done, or I would soon be out of the raspberry business. So in the spring of 1900 I prepared to spray. Previous to spraying I cut out all diseased canes, which I think should be done. I sprayed the first time with copper sulphate solution before growth started; second application with Bordeaux mixture, when canes were four to six inches high; and a third application about two weeks later. I intended to make a fourth application after the crop was gathered, but the pressure of other business prevented.

Now for results. I watched very closely and could not detect much of the disease on the canes, and though I had abundant evidence of it, but this spring I found it was not to be so easily conquered.

Did I say "so easily conquered?" If you had held a knapsack sprayer strapped to your back, as I did mine, and carried it for a half day, you would probably conclude that it was not an easy job. I found a great many of the best canes badly diseased, some entirely dead, and I was thoroughly discouraged. The strange part of it to me is that the late, small canes were most of them healthy, and I have the promise of a half crop. The Cuthberts are the best this year they have ever been, and will give us more fruit.

I am spraying again this spring, but am using a barrel sprayer, and can do a better job, as it breaks the mixture into a finer mist. I notice that it is almost impossible to cover the canes, as it gathers in droops on them. I can cover the leaves all right, but that is not the part affected.

To sum the matter up, I can not see as the spraying did much good, and I am afraid I will have to give up growing the raspberry on account of anthracnose. I hope this paper may be the means of bringing on a discussion of spraying for anthracnose, and if you have been successful, let me know what preparation was used and when and how it was applied.

**J. L. MARSHALL'S ORCHARD.**

Our Lafayette County, Mo., correspondent J. L. Marshall, has a fruit farm, a description of which we reprint from the Lexington "News." We think it will interest our readers to note the varieties of fruits Mr. Marshall is growing, and to know that what he writes is based on experience.

In the suburbs of Lexington there is in all probability the finest and best young orchard in Lafayette County. We are certain there is not one in the state in better condition or more energetically looked after. The orchard we refer to is that of Mr. J. L. Marshall, just opposite the old fair grounds. It is three years old and is as pretty as a picture.

Everything is systematically arranged, from the smallest fruits to the large trees, it is abundantly supplied with the best of everything, and only demonstrates what can be done by one man, to accomplish what is to be seen at Mr. Marshall's. To do this, however, has required much hard work and lots of patience.

He has gone to work systematically. Everything is in order and of the best varieties, and it is certainly a treat to walk through his unsurpassed orchard. There will be a large crop of berries, grapes, peaches, etc., judging by his orchard, but that may be from the care and attention he has given thereto.

We doubt if there are three persons in Lexington who have the least idea what kind of an orchard Mr. Marshall has.

Here is a list of the several varieties to be found there.

Apples—40, half of which are Ben Davis, quarter Jonathan, quarter Huntsman, with a few summer and fall varieties, besides 16 varieties of individual trees budded to test.

Four hundred peaches, consisting of, in order ripening, Sneed, Greensboro, Triumph, Elberta, Champion, Smock, Crosby, Engle's Mammoth, Alton, Mammoth Heath, Buysen's October Bronze, Krummel's October, in addition 10 or 12 individual trees of varieties to test.

Grapes—125, of black grapes, Moore's Early, Worden, Hicks, Concord and McPike; white, Diamond, Niagara, Martha Elwood; red, Brighton, Perkins Red and six other individual varieties to test.

Plum—Japan varieties, Burbank, Abundance, Wilcox, Red June, Gold, Stan, Clinton, native varieties, Wild Goose, Wolf, Milton, Weaver and other varieties to test.

Blackberries—Snyder, Early King, Eldorado, Taylor, Erie, Minnewaska and Lucretia Dewberries.

Raspberries—black, Hopkins, Nemaha, Munger, Kansas and Progress; red, Miller and Loudon.

In addition he has the following varieties of fowls: Wild geese, pen fowls, Chinese geese, Toulouse geese, white and pearl guinea fowls, Pekin, Cayuga, Rouen and Muscovy ducks, and Plymouth Rock chickens.

It will pay anyone to visit Mr. Marshall and take a look at his orchard. He has gone at it understandingly, and takes pleasure in giving every detail the necessary attention, and he is sure to meet with success, of which he is every way deserving. It is sure to prove a paying investment.

## The Apiary.

### BEES AND HONEY.

When the colony is getting ready to send out a swarm, one listening at the hive can usually hear a sharp peeping, not altogether unlike that of a lost chicken, but much less in volume and perhaps more shrill, certainly more rapidly repeated, says "Mass. Ploughman." This is said to be the angry note of the queen when she finds that there is another queen living in the hive, and guarded by the workers so that she cannot get at it to kill it, as she very certainly would if it were not surrounded by a body guard. What reason any one has for the assertion that these are notes of angry parties, instead of calls to rally a certain number of her followers to prepare to depart with her from the presence of her newly-hatched rival, we do not know, but the fact remains that many are guided by the sound of the hum and destroy the young queen and any other queen cells they can find if they do not wish another swarm. It is easily detected by one whose hearing is keen enough, for it bears about the same relation to the ordinary hum of the colony as the shrill notes of the bugle do to the roar of the battlefield.

**MATING QUEEN BEES IN CONFINEMENT.**

When this subject was first broached several years ago, it received a great deal of attention, but trials with it have not been satisfactory, says the "N. E. Homestead." However, a Georgia beekeeper has continued experimenting and last year was successful in mating 100 queens. His method was to build an inclosure 30 feet high and 30 feet in diameter, covering it with mosquito bar. Long poles were set in the ground and well braced, the tops being tied with heavy wire before covering with the netting.

Colonies of bees, well supplied with drones of the right sort, were placed close up against the wall of the tent, the outside, each colony being allowed two entrances. One entrance opened outside the tent and was contracted so as to permit the egress and ingress of only the workers. The entrance to the tent was made large enough for the drones and queen and was kept open only two or three hours in the middle of the day. For a few days it was closed until the workers became accustomed to going in and out.

In a few days, after the drones became accustomed to being confined and were quiet and reconciled to fly in the tent, the queens were turned in and mated almost at once. The success of this plan lies in having a large tent in getting the drones accustomed to it.

When the colony is getting ready to send out a swarm, one listening at the hive can usually hear a sharp peeping, not altogether unlike that of a lost chicken, but much less in volume and perhaps more shrill, certainly more rapidly repeated, says "Mass. Ploughman." This is said to be the angry note of the queen when she finds that there is another queen living in the hive, and guarded by the workers so that she cannot get at it to kill it, as she very certainly would if it were not surrounded by a body guard. What reason any one has for the assertion that these are notes of angry parties, instead of calls to rally a certain number of her followers to prepare to depart with her from the presence of her newly-hatched rival, we do not know, but the fact remains that many are guided by the sound of the hum and destroy the young queen and any other queen cells they can find if they do not wish another swarm. It is easily detected by one whose hearing is keen enough, for it bears about the same relation to the ordinary hum of the colony as the shrill notes of the bugle do to the roar of the battlefield.

**GIVE THE BEES STORAGE ROOM.**—Keep removing the honey from the surplus boxes just as fast as it is completed. Do not allow it to remain until the bees have filled all space, and have no more room. Add supers as the bees need them, but ordinarily two supers will answer, except in extremely strong colonies, where three or more may be used. One super of 24 sections is enough for weak colonies, but at this season of year they soon get strong, and in a week's time they will be ready for two supers. The empty supers should be placed next to the brood chamber and the filled one on top, and thus several may be stacked up, but it is best to take off all sections completed, and fill up with empties, mixing them up with the partly filled ones. If a colony that has a lot of partly filled sections on the middle of the day, more work at storing honey in them than in the old hive. The work of removing the sections of honey can be done more rapidly by opening the supers while on the hives, and with a little smoke, and a brush, the sections can easily be taken out one by one, and replaced with others. The work can be done in the time it would take to get the bees all out of the supers and away from the hives.

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## Live Stock.

### DATE CLAIMS FOR LIVE STOCK SALES.

Oct. 21, 1901—E. E. Axline, Oak Grove, Mo. Poland-Chinas.  
Oct. 2—E. S. Donahy, Newton, Iowa. Shorthorns.  
Oct. 8—F. M. & O. B. Cain and Jas. Novinger & Sons, Novinger, Mo., at Kirksville, Mo. Shorthorns.  
Oct. 9—A. Alexander and R. G. Robb & Son, Morning Sun, Iowa. Shorthorns.  
Nov. 6—E. O. Cowan, New Point, Mo., and W. T. & H. R. Clay, Plattsmouth, Mo., at Kansas City, Mo. Shorthorns.  
Nov. 12—Purdy Bros., Harris, Mo., and D. L. Dowdy & Co., Arrington, Kas., at Kansas City, Mo. Shorthorns.  
Dec. 10, 11, 12 and 13—Kirk B. Armour and Jas. A. Funkhouser, at Kansas City, Mo. Shorthorns.  
Dec. 15—C. D. Nichols, Maryville, Mo., at South Omaha, Shorthorns.  
January 23 to 25, 1901—Souths annual Criterion Sale, at Kansas City.  
Jan. 14, 15 and 16—Cornish & Fatten, Osborn, Mo., and others, at Kansas City, Mo. Hereford cattle.  
Feb. 11-12, 1902—Redhead Anlisty, Boyles and others, at South Omaha, Neb. Hereford cattle.  
March 6-7—J. M. Forbes & Son, Henry, Ill.; J. F. Prather, Williamsburg, Ill.; S. Prather & Son, Springfield, Ill.; C. B. Dustin, Sumner, Mo.; T. J. Wornall, Mosby, Mo., and others, at Chicago, Ill. Shorthorns.  
March 11—W. D. Nichols, West Liberty, Iowa. Shorthorns.  
June 18—C. E. McLane, Danville, Ind., at Indianapolis, Double Standard Polled Durhams.

The "National Hereford Exchange" under management of T. F. B. Sotham, as follows:  
Nov. 20-22, 1901—East St. Louis.  
March 25-27, 1902—Chicago.  
April 25-27, 1902—Kansas City.  
May 27-29, 1902—Omaha.  
June 24-26, 1902—Chicago.

### SELECTING SHORTHORNS.

Points to be noted in choosing breeding animals.

Editor RURAL WORLD: In compliance with your request in your issue of June 12, to give "A Reader" points to be noted in the selection of a young Shorthorn bull and heifer, I do so, hoping thereby to say something that will be beneficial to "A Reader" and other readers of your most esteemed paper.

Assuming that the type of Shorthorn your inquirer seeks information about is that of the beef producing strain, I will confine my remarks to that type of animal. It might be well to here suggest if he is going exclusively and scientifically into the Shorthorn breeding business, it is important that he secure some of the valuable books that treat on Shorthorn breeding. Let him read them carefully. In this way he could obtain from the best authorities on the subject more knowledge than any livestock auctioneer could possibly impart to him in a brief description through the columns of your paper.

The important requirement of a bull, however, is to possess the peculiar talent to make a breeder—that is, a critical eye for form, symmetry, and the proportion of the several parts of an animal each to the others.

The breeder must be the judge in the selection of parents, of their fitness to transmit the desired qualities; he should have a thorough practical training, should read the publications of accredited writers, and be a student as it were to keep up with the times.

INDIVIDUAL MERIT.—A writer in commenting recently on the Westport Shorthorn sale, where Sweet Violet 2d sold for \$7,000, says, among other things: "It establishes the fact that Shorthorn breeders have at last gotten on to the sound foundation of individual merit and that the leaders of the Shorthorn interest are seeking to gain and perpetuate that individual merit by inheritance." The beginner should learn to make his selection of animals to start a herd with on the "individual merit" plan. Another writer, referring to an article written by the writer mentioned above, says: "I agree with him, that the first thing to be considered in a Shorthorn is individuality and that the pedigree comes second. I prefer both, and try to buy individuals possessing both." My instructions from my employer, for whom I am buying, are to buy the best I can find, and to buy Shorthorns, not pedigrees; this for the information of "A Reader."

NOW, AS TO THE POINTS TO BE NOTED IN SELECTING A SHORTHORN BULL AND HEIFER, I quote extensively from the "American Farmers' Stock Book." The Shorthorn bull should possess purity of breed on both sides. Sire and dam should have reputation for docility of disposition, early maturity and aptitude to fatten. The sire should be a good stock getter, the dam a good breeder and giving a large quantity of milk. The head should be muscular and fine, the horns fine and gradually tapering to a point, of a flat rather than of a round shape at the base, short and inclined to turn up; those of a clear waxy color to be preferred, but such as are of a transparent white and tinged with yellow admixable. The ears should be small, thin and covered with soft hair, playing quick and of free action. The forehead should be short, broad, especially between the eyes and slightly dished; eyes bright, clear and rather prominently set; the muzzle small, round, with lower part of the face clean, dished and well developing the course of the veins; muzzle small, nose of a clear orange or light chocolate color; nostrils large and open; lower jaw clean and thin.

Neck should be fine and slightly arched, strongly and well set on the head and shoulders, harmoniously widening, deepening and rounding as it approaches the larynx point, of a dewlap. The chest should be broad, deep and projecting, the brisket on a lower line than the belly, shoulders broad, strong, fine and well placed. The forelegs should be short, straight and standing rather wide apart than narrow; forearm muscular, slightly swelling and full above the knee. The bone should be fine and flat; knees well knitted and strong, foot flat and in shape an oblong semi-circle. The horn of the bull should be sound and of a clear waxy color. The heart girth should be good, barrel round and deep and well ribbed up to the hips; back short, straight and broad from the withers to the setting on of the tail; crops round and full; loins broad, huckle bones on a level with the back; tail well set, on a level with the back; fine and gradually diminishing to a point, and hanging, without the brush, an inch or so below the hock, at right angles with the back.

The hind quarters from the huckle to the point of the rump should be well filled up; twist well let down and full; hind legs short, straight and well spread apart, gradually swelling and rounding

above the hock; the bone fine and flat below; legs not to cross each other in walking; not to straddle behind. The skin should be of medium thickness, movable and mellow; a white color is admixable, but rich cream or orange much preferable; hair well covering the hide, soft and fine, and if undercoated with soft thick fur in winter, so much the better.

COLOR.—Solid red has been the prevailing or fashionable color, but the red roan is fast becoming popular. A black or dark brown nose or rim around the eye, black or dark spots on the skin and hair are decidedly objectionable and indicative of coarse meat and bad blood.

THE HEIFER.—The points to be taken into consideration in the selection of a Shorthorn heifer differ from those of the bull in the following: The head is small and tapering, long and narrower in proportion than that of the bull, and should possess rather a graceful feminine character. The neck should be fine and thin, straight and well set on the head and shoulders and slightly rounding in a delicate feminine manner as it approaches the latter point. The udder should be broad, full, extending well forward along the belly, and well up behind; teats of a good size for the hand, squarely placed with a slight oblong to the hand, the milk flowing from them freely. Extra teats are indicative of good milking qualities, but should never be milked, as they draw the bag out of shape. HARRY GRAHAM, Live Stock Auctioneer, Livingston Co., Mo.

### SHORTHORN AFFAIRS

Within and Without.

Editor RURAL WORLD: One year ago the office force of the American Shorthorn Breeders' Association was at least eight months behind with the work. This was due largely to the increasing business resulting from improved conditions of trade; also to the "deluge" of pedigree records that came in during the closing months of 1899, December of that year showing the record-breaking receipts of over 12,000 pedigrees. During last July the office force was increased and commendable progress made, and the accumulated work would have been disposed of by the annual meeting in December, only for the increased work made necessary by the shows and sales conducted by the association.

UP TO DATE.—However, I am glad to report to all patrons of the office and friends of the breed, that we are practically up with the work. Pedigrees coming to the office now are checked and certificates of acceptance are sent, and certified copies when ordered, within one week from the time the pedigree is received. In cases of emergency certified copies can be furnished on one day's notice, and in a few instances, during the last month, small orders have been filled within an hour after the order was received.

Much praise is justly due Secretary John W. Groves for the improved condition in the work, and to his faithful complement of clerks, some of whom have been several years in the office, and I am sure the patrons of the office will accord him due credit for his energetic and efficient work when it is more fully known. As I have been in the office but a very short time, and so claim no credit for what has been accomplished, I can, I trust, bespeak the appreciation of faithfulness of my associates in the office, without being liable to the charge of self-laudation.

As a brief account of the methods in the office may interest some readers, I will say that when letters are received they are opened and the pedigrees hastily examined to see if date of birth, color, sex, signature of breeder, etc., are given. A good many are deficient in some of these requirements, and so have to be returned to the sender, or else held until completed by correspondence. This, of course, causes delay and sometimes great disappointment to breeders who would like to have their pedigrees immediately examined and sent to the office, to guard against omissions or mistakes, the work of the office would be greatly facilitated, and more prompt and satisfactory service given.

After the first examination of pedigrees and proper receipt sent, the money is entered on the books and the pedigrees marked and laid away until the "checking" clerks can examine them. This is the most careful examination, and consists in comparing the pedigree of an animal with the record of its immediate ancestors to detect mistakes, if any have been made. After being checked, pedigrees are filed away until the Volume is ready for the printer, and the original pedigrees are not returned to the parties sending them, as some think, but are kept in the office for future reference.

The Secretary, in fact, the whole office force, is anxious to push the work vigorously and give efficient and satisfactory service, and all rejoice with the breeders on the very gratifying increase in receipts of the office, as indicating the strong and healthy demand for Shorthorns. The receipts for 1900 were larger than any preceding year, but will show a decided increase over 1900. During the first five months of 1901 the receipts for pedigrees were \$18,856 and \$2,145.50 for certified copies, while during the same months of 1901, the receipts for pedigrees are \$26,311 and \$3,699.50 for certified copies. This is an increase of \$7,455 in pedigrees, and \$1,544 in certified copies, or approximately 40 per cent increase in the former and 75 per cent in the latter. As certified copies are 25 cents each, this represents a demand for 14,798 copies in five months, or 113 copies for each working day.

THE OUTLOOK.—This much from within the office, what are the prospects from without? Bright? Decidedly so; in fact, rosec with promise. The increase of receipts in the office hardly keeps pace with the increased demand for Shorthorns in the country. Since February 1, 1901, 2,000 Shorthorns have sold at public sale at an average of above \$800; 1,000 at an average of above \$600, and 500 at an average of \$325. Is there any consolation or encouragement in these figures? Can anyone beat them? And what do they signify? Plainly that the "lordly Shorthorn" is, as he always has been, the favorite of the great mass of American stockmen. With this strong and healthy home demand, and the National Association, with other associations, reaching out after the South American trade, it would seem that the lot of the American Shorthorn breeder had truly fallen in pleasant places.

DAIRY SHORTHORNS.—During the last few months frequent inquiry has been made at the office for dairy Shorthorns—

that is, cattle of good beef type, but whose dairy qualities have been developed both by breeding and careful management. If breeders who have herds of this character will write me, I will endeavor to put them in touch with the demand, when one is known. B. O. COWAN, Assistant Secretary, Springfield, Ill., June 21.

### A STEP FORWARD.

At the Kansas Agricultural College.

Live stock judging, which is considered such an important part of the course at the agricultural colleges of other states, will be introduced at the Kansas Agricultural College, the Board of Regents having made ample provision therefor in next year's short course. For some years past the college has been destitute of thoroughbred live stock, but now is in a fair way to be supplied with a sufficiency of at least cattle and swine, for immediate purposes, both as object lessons and for experiments.

The last legislature appropriated \$5,000 for the purchase of pure-bred cattle for the college, and Regent Coburn, with Professor of Agriculture Cottrell, have been designated by the board to make the selections and purchases. The intention is to secure a trio of typical, registered cattle of ten standard breeds, viz.: Shorthorn, Hereford, Aberdeen-Angus, Galloway, Red Polled, Polled Durham, Ayrshire, Guernsey, Holstein and Jersey. Cattle of some of these breeds are already in hand, either from purchase or by donation. Several prominent and spirited breeders have contributed cattle, and more will do so; while swine-raisers have many of them presented the college with choice pure bred pigs. The institution is woefully deficient in horse stock, and has no sheep whatever, but it is hoped these deficiencies may now be of short duration.

The farm department much desires to have, as a beginning at least, a trio of Angora goats, but has no means for their purchase now. This is an opportunity for some of the enterprising goat-breeders to advertise their favorites by seeing that the farm is supplied with a few of the best.

There is a prospect that the Kansas Agricultural College will, hereafter, be much more nearly what its name implies, an "agricultural" college, than ever before, and this is entirely proper in a state whose revenues so largely come from agriculture and live stock husbandry as do those of Kansas.

The matter of seed breeding is one which has not, as yet, been given at Manhattan anything like the importance its merit demands, but it is likely the present board of regents will see to its active promotion along really practical and helpful lines, as is being done in states such as Illinois, Minnesota and Iowa.

### REPRESENTATIVE SALES

Made by Evans-Snyder-Buel Co. in Kansas City.

Langford Bros., Colorado, some alfalfa hay fed cattle which weighed 1,121 lbs. and sold for the fine price of \$5.00.  
Geo. J. Means, Kansas, 40 corn-fed steers that weighed 1,257 lbs. and sold for \$5.55.  
Joe Jordan, Kansas, says: "If you want your cattle sold high ship them to Evans-Snyder-Buel Co. They sold some for me weighing 1,258 lbs. at \$5.65."

W. C. Foster, Missouri, a load of cattle weighing 860 lbs. at \$5.25.  
A. J. Kohler, Kansas, some light corned dogs which weighed 987 lbs. and brought \$4.90.

W. H. Linton, Kansas, a load of native feeders which weighed 915 lbs. and brought \$4.55.

D. H. Middleton & Co., Indian Territory, 84 calves, average 224 lbs., at \$4.00; 27 grass cows, average 236 lbs., at \$3.85; 50 steers (grass), average 358 lbs., at \$3.75.

H. H. Halsey, Texas, 100 grass Texas, average 331 lbs., at \$4.05, and 25 grass cows, average 721 lbs., at \$3.00.

E. Coconough, Texas, 19 grass Texas average 554 lbs., at \$3.10, and 4 bulls (grass), 1,160 lbs., at \$3.65.

A. D. Turner, Texas, 34 fed Texas steers, average 917 lbs., and sold for \$4.15; also 8 steers, 597 lbs., at \$2.50, and 4 cows, 1,025 lbs., at \$2.40.

W. I. Longbottom, Texas, 19 grass Texas steers, average 546 lbs., at \$3.60.

J. H. McCaskey, Texas, 34 fed steers average 917 lbs., at \$4.60, and 72 fed steers, 566 lbs., at \$4.45.

J. B. Heffer, Indian Territory, 19 fed steers that averaged 1,968 lbs. and brought \$4.85.

Mitchell & Seifridge, Indian Territory, 55 wintered Texas grass steers, average 928 lbs. and brought \$4.50, a top sale.

Hadley & Harris, Texas, 50 common grass cows, average 720 lbs., at \$2.10.

B. F. Simmons, Texas, 43 plain but very fat fed Texas steers, average 1,072 lbs., and brought \$4.80.

L. C. Featherston, Indian Territory, 103 grass wintered Texas steers, average 902 lbs., at \$3.40, also 16 cows, 514 lbs., at \$2.80.

D. Van Eaton, Texas, 44 fed Texas steers, average 1,076 lbs., which brought \$4.45.

R. D. Williams, Texas, a load of mixed grass Texas at \$3.40 to \$3.85.

Todd & Brown, Indian Territory, 35 calves, average 190 lbs., and brought \$4.25, 26 cows (grass), 820 lbs., at \$3.50, and 2 steers (grass), 1,010 lbs., at \$4.50.

F. H. Boughman, Kansas, a load of light mixed hogs at \$5.75.

L. A. Keys, Indian Territory, a load of pigs at \$5.75.

Caney Grain Co., Indian Territory, light mixed hogs at \$5.75.

W. G. Reamer, Indian Territory, light Indian hogs at \$5.75.

Findlay & Osthoff, Kansas, mixed packers at \$5.82 1/2.

F. B. Shelton, Missouri, hogs at \$5.87 1/2.

### DRIED BLOOD

As a Tonic for Young Calves.

For two years the Kansas Experiment Station has been using dried blood in connection with its experiments in feeding calves. In March, 1899, one of our cows gave birth to a calf weighing 86 pounds. This calf was allowed to suck for several weeks, to assist in reducing the inflammation in the dam's udder. On account of poor quality and quantity of milk, the calf did very poorly, and to save its life it became necessary to remove him from his dam. With the ordinary treatment accorded our calves he grew worse and worse, and when seventy-nine days old weighed only 90 pounds, or four pounds heavier than at birth. Although no one would have given ten cents for the calf at this time, an effort was made to bring him out. He was given castor oil, laudanum, fresh eggs, calf meal, and, as a last resort, dried blood. With the blood the calf commenced to improve, and in a short time was gaining at the rate of nearly 14 pounds per week, and not infrequently as high as 17 to 18 pounds per week. When a year old he weighed 578 pounds—a pretty good record for a calf that gained only four pounds for the first 79 days of its existence. The dried blood consumed during parts of three months amounted to 7 1/2 pounds. At two cents per pound, the cost was 15 cents.

In October, 1900, a heifer belonging to the Agricultural College dropped her first calf. The calf was small and sickly, and for the first few weeks did very poorly, as is shown by the fact that on December 1 it weighed two pounds less than on November 1. For a few weeks its life was in a very critical condition, but when induced to eat a little dried blood with its milk it began to improve and has been making fair gains ever since.

Dried blood is not only good for a weak calf, but is an excellent remedy for any calf subject to scours. The Kansas Experiment Station has just purchased twenty young calves. Frequently these calves arrive at the Station badly affected with scours; a little dried blood always brings about a cure. Recently a test was made with five calves that happened to be scouring at the same time. With two of the calves dried blood was fed after reducing the regular feed of milk. With the other three the dried blood was fed without changing the supply of milk. In the former case the calves recovered from the scours after two feeds; in the latter after three feeds. With the seventy head of young calves under experiment at the Kansas Station during the past year, there has not been a single case of scours that dried blood has failed to check.

In feeding dried blood, a teaspoonful at a feed is a great plenty. This should be continued until the scours disappear. In case of a weak calf, the allowance may be gradually increased to a tablespoonful at a feed. To prevent the dried blood from settling to the bottom of the pail, where the calf will be unable to get it, it may be stirred in the milk. With two of the calves dried blood was fed after thoroughly mixing. Since dried blood is such a cheap and effective remedy, it will pay anyone who raises young calves by hand to have a little available whenever a calf shows signs of disorders in its digestive tract. It can be obtained from any of the large packers. When ordering state that the blood is wanted for feeding purposes.

Manhattan, Kas. D. H. OTIS.

### STOCK NOTES.

CLOVER BLOAT.—Is there less danger from bloat by leaving stock in the field at night than in taking them out and returning the next day? C. F. D. Clay Co., Ill.

We should much prefer to take the stock out of the clover field at night and not let them return until the dew has dried off, and, if possible, after they have partially satisfied their hunger with other forage.

COL. JAS. W. SPARKS.—In a letter to the RURAL WORLD enclosing check for advertising bill, Col. Jas. W. Sparks, the well known auctioneer, says: "I have just finished my season's work, selling in 17 different states, making 140 sales for the best breeders in the United States. I am booked for a good list for the coming season and have only a few dates yet open."

ST. LOUIS NATIONAL STOCK YARDS.

Market Report furnished by Evans-Snyder-Buel Company.

Receipts for week ending June 22 were 16,365 cattle, 27,889 hogs and 12,299 sheep, against 21,063 cattle, 32,231 hogs and 5,858 sheep the previous week. As compared with corresponding week year ago, cattle increased 7,000, hogs 4,500, and sheep decreased 4,000. Receipts at the four principal markets in round numbers were 106,400 cattle, 288,100 hogs and 111,900 sheep, against 121,900 cattle, 316,000 hogs and 103,000 sheep the previous week, and 103,000 sheep 100 hogs and 125,200 sheep corresponding week year ago.

CATTLE.—Receipts in the native division were not as heavy as last week, but the market was better. The native division is left to eat the necessary ration of food to nourish the system, which accounts for the fact that live stock in the middle of the summer when the grass and forage is at its best often fail to put on flesh, and do not get into good condition until the fall months when the pastures flourish have paid their final debt to nature.

The species of fly known as the blow fly causes incalculable damage to live stock. Among cattle the screw worm owes its origin to a member of the blow fly family, and all sheep men have had cause to regret the wholesale destruction which follows the advent of this pest among their flocks.

Another species of fly particularly annoying to cattle is that called the horn fly, and many and various are the means used to prevent its annoying live stock. As a sanitary measure the total extermination of flies is to be desired, as many dangerously contagious diseases are spread by flies which, after making a meal on an infected carcass, carry away germs on their bodies and legs sufficient to set up the disease wherever they may chance to wander.

In addition to these, other parasites such as ticks, lice and mange mites appear to be more numerous and troublesome during the summer months, so that any preparation which will afford immunity against attack from these pests certainly will be hailed as a godsend by all owners of live stock.

plung and export steers, 1,200 to 1,800 pounds, \$3.25 to \$5.50; fair to medium shipping steers, 1,300 to 1,450 pounds, \$5.00 to \$5.25. The bulk of the native beef steers averaging 1,300 pounds and upwards, good quality, at \$5.50 to \$5.75, and the top was \$5.95 for 1,425 pound offerings. Steers, 1,500 to 1,550 pounds average, full range, rough to best, \$5.30 to \$5.75, bulk of sales at \$5.35 to \$5.70; steers, 1,000 to 1,150 sales at \$5.35 to \$5.70; steers, 1,000 to 1,150 pounds average, full range, \$4.00 to \$5.50, bulk of sales at \$4.50 to \$5.25; steers weighing less than 1,000 pounds full range \$3.75 to \$5.35, bulk sold at \$4.15 to \$4.65. Feeding steers, fair to choice, 800 pounds and upwards, \$2.25 to \$5.00, the bulk at \$3.50 to \$4.20, and they were plain to medium quality, common to choice stockers, \$2.50 to \$4.75, bulk at \$3.75 to \$4.05, and the bulk was fair; stock heifers full range \$2.50 to \$3.75 and the bulk at \$2.85 to \$3.35. Fancy native heifers sold at \$5.00 to \$5.25, and there were very few on the market; choice native heifers sold at \$4.75 to \$4.95; good native cows and heifers sold at \$3.65 to \$4.65; medium cows at \$2.90 to \$3.00; fair cows \$2.50 to \$2.85; inferior, light and old cows \$1.50 to \$2.40; the bulk of the South-western cows sold at \$2.40 to \$3.35, and the bulk of all the cows sold at \$2.75 to \$3.75. Canning cows full at \$1.25 to \$2.85.

Veal calves, full range, \$5.00 to \$6.00 per 100 pounds, bulk at \$4.50 to \$5.50 per 100 pounds. Herefries and yearlings sold at \$2.75 to \$4.00 per 100 pounds, with the bulk at \$3.25 to \$3.75. Bulls, full range, \$2.50 to \$4.00, bulk of sales \$3.00 to \$3.50. Stocker bulls sold at \$2.50 to \$3.75, the bulk at \$2.85 to \$3.40. During the week the milkers sold at a full range of \$23.00 to \$42.50 per cow and calf, the bulk of sales being at \$27.50 to \$37.50.

SOUTHERN CATTLE.—Receipts continue to be heavy, the week's receipts amounting to 425 cars, which is 52 cars less than last, and 191 cars more than the corresponding week year ago. The quality rules common, there being very few good cattle in the receipts. The market opened for part of the week 5 to 10c lower on the best, medium 10 to 15c lower. Wednesday receipts were moderate, and prices anywhere from 10 to 15c higher. The market today closes steady to a shade stronger than the close of last week.

During the week Texas and Indian Territory fed steers, 800 to 1,350 pounds average, sold at \$2.50 to \$3.15, mainly at \$2.85 to \$3.15; grass steers, 600 to 1,016 pounds, at \$2.05 to \$4.15, the bulk at \$2.40 to \$3.90; cows and heifers at \$2.00 to \$3.50, mostly at \$2.75 to \$3.10; stags and oxen at \$2.00 and calves 150 to 262 pounds at \$1.50 to \$2.50. Arkansas steers, 600 to 1,450 pounds average, sold at \$2.75 to \$4.50, cows and mixed cattle at \$2.00 to \$2.75, bulls at \$2.75 to \$3.25 and Mississippi bulls at \$2.90.

HOGS.—Receipts for week just ending have been light, and the market ruled strong to higher each day. The bulk of last week's decline has been regained, and Friday's top was but 2 1/2c lower than the high time last week, and about \$1.00 higher than corresponding time last year. Saturday receipts were light, and the market steady with Friday's values. A good clearance was made at following prices: Butchers and packers' \$5.35 to \$6.17 1/2, Yorkers and shippers \$5.35 to \$6.00, heavy pigs \$5.25 to \$5.90, light pigs \$4.50 to \$5.35, rough heavies \$5.00 to \$5.75.

SHEEP.—With light run for week just ending, the market on this class has been in good condition, and ruled strong to shade higher, while lambs have been in liberal receipt, and prices show a net decline of about 25c as compared with last week's closing prices. Bulk of mixed lots of sheep are selling from \$3.75 to \$3.85, yearlings \$4.00 to \$4.25, ewes of good quality \$3.25 to \$3.50, spring lambs, fat and of good quality, weighing 60 to 70 lbs., \$3.2 to \$3.50, fat bucks \$2.50, stockers \$2.50 to \$3.00.

Monday, June 24, 1901.—CATTLE.—Receipts in the native division were extremely light; no good cattle on sale. The run in the Quarantine division was light, there being only 90 cars, and prices on all classes fully steady with the close of last week. We think had there been a few good cattle here to-day they would have sold a little stronger. Chicago reported 20,000, and their market steady to 10c lower.

HOGS.—Receipts to-day were light, and the market ruled strong to 5c higher, showing top of \$6.20.

SHEEP.—Receipts moderate, and market steady with last week's closing prices.

THE FLY SEASON.—Stockmen at this season of the year look forward with dread to the regular visitation from the fly pest. The common house fly during the hot weather makes the lives of both men and animals miserable. The horse in the pasture or stable, the cow in the barn, and the hogs in the pig pens are all liable to be bothered by this pest, but little time is left to eat the necessary ration of food to nourish the system, which accounts for the fact that live stock in the middle of the summer when the grass and forage is at its best often fail to put on flesh, and do not get into good condition until the fall months when the pastures flourish have paid their final debt to nature.

The species of fly known as the blow fly causes incalculable damage to live stock. Among cattle the screw worm owes its origin to a member of the blow fly family, and all sheep men have had cause to regret the wholesale destruction which follows the advent of this pest among their flocks.

Another species of fly particularly annoying to cattle is that called the horn fly, and many and various are the means used to prevent its annoying live stock. As a sanitary measure the total extermination of flies is to be desired, as many dangerously contagious diseases are spread by flies which, after making a meal on an infected carcass, carry away germs on their bodies and legs sufficient to set up the disease wherever they may chance to wander.

In addition to these, other parasites such as ticks, lice and mange mites appear to be more numerous and troublesome during the summer months, so that any preparation which will afford immunity against attack from these pests certainly will be hailed as a godsend by all owners of live stock.

Lincoln Dip, advertised elsewhere in our columns, is recommended to keep flies and other parasites from live stock. By washing, dipping or spraying animals in a solution of this preparation, such vermin as ticks, lice and mange mites, if present, are effectively destroyed, and the animals being kept free from such vermin, will be in a condition to thrive and take on flesh. Maggots in sheep or screw-worms in cattle are easily destroyed with Lincoln Dip, the sores are made healthy and further attacks from blow flies prevented. Live stock owners should address the Patent Vaccine Co. for full information on the subject.

### Shorthorns and Poland-Chinas!

18 yr. sows of Mo. Black Chief; 30 fall gilts by son of Mo. Black Chief, litter mate to Chief Eclipse, Mr. Axline's great boar; two Aug. and Sept. boars by I. Am. Perfection, Mr. Waters' great prize winner. There are some fancy show animals in this offering. Three Sept. bulls by Scotch sire, dam by Poland-China. Call on or address, J. B. YOUNG, Richards, Mo.

### Gentry Bros. Cedar Vale Stock Farm

SEDALIA, MO.

Grand Duke of Hazelhurst 12648, assisted by Waterloo Duke of Cedar Vale 13360, heads our herd of Shorthorns. These animals have been in the hands of pure Scotch and Scotch topped cows of the most fashionable families. Stock for sale at all times at reasonable prices. Parties met at train. Farm two miles out. Telephone No. 30.

### BARGAINS IN SHORTHORNS!

Four-yr. bulls, 3 by Victorius 12169, 1 by son of 3, reds, 1 dark roan, 5 yr. heifers by son of Victorius and son of Aldridge Duke of Hazelhurst 11786; 14 cows are Redicks, Red by Victorius, Peris, Josephine, Young Marys and Zellas, Bates topped. Call on or address, CHAS. L. BUSH, Washington, Mo.

### Shorthorn Bulls for Sale!

Baron Thorndale 123,000; Dark Roan of April 30, 1899, or will trade him for heifers. Also 6-year bulls by Baron Thorndale and out of dams of Easterday and Secret; these animals have been in the herd since 1886, and are great milkers. Call on or address, L. G. JONES

## Horseman.



The Moberly, Mo., races take place July 23-25 inclusive. Entries close July 17, and records made after June 18 do not bar. This race meeting is only a month from now, and the entries close in about three weeks. No time is to be lost in preparing to make the entries.

According to Supt. Hankinson, of the Society for the Prevention of Cruelty to Animals, a new disease, similar to grip, has appeared among the horses in New York City, and is rapidly killing them. The disease was first discovered last Saturday, and from the reports submitted by the leading veterinary surgeons, fully ten thousand horses are to-day suffering from it.

In a private letter the editor of the RURAL WORLD learns from J. G. Callison that that noted stallion, Walnut Boy, has had a wonderfully successful season; that over one hundred mares have been engaged for his service, and the very best mares in his section of the country. Mr. Callison is working three of his get that are very promising. Walnut Boy is certainly proving himself a great sire of speed.

Senator J. W. Bailey of Texas, in conversation with a number of friends, recently said: "I am doing something in the way of breeding trotters that no other man in the United States is doing. I have twelve mares, all of which are standard for not less than four crosses back, and none of which have a drop of Wilkes or Electioneer blood. Now, I am going to breed these mares so as to interbreed the Wilkes and Electioneer crosses. I have begun this year by breeding to Charley Williams' stallion, and I'm going to breed on and on each year, but never more than twice a year, because I am of the opinion that I could not give a greater number proper attention. I am satisfied that I will obtain good results from this system of breeding."

Representatives of the Japanese government are in Chicago in connection with a visit to this country for the purpose of examining the American horse and the methods of its breeding, with the view of its extensive introduction into Japan. The members of the party—B. Hirose, I. Yasui and K. Nishikawa—are connected with the agricultural college of the Japanese government. They say Japan is and has been suffering from the generally inferior breeds of its horses, which operates as a serious handicap to the nation, not only from a military point of view, but from a general domestic one as well. The superior quality of the American horse is becoming recognized the world over, the victors any, and while they visit England, France and Germany before their return to their native land, they are frank to admit that they are of the opinion that the best horses in the world are being bred in this country.

Trotting Editor Cogswell of the Boston "Traveler" has had a talk with Trainer Jack Trout, who, among other things, said: "How have I worked Anaconda? Well, the fastest mile has been in 2:14, and the slowest 2:19. Last Thursday I stepped him three miles in 2:14, last Friday in 2:16, last Saturday in 2:16, and last Sunday in 2:16. He is a bad horse to work slow. If I tried to have him step slower than 2:20 he would have to be checked high, and even then I would be told that he was broken now, which is something he was not when I got him. I jog him anywhere I please, around electric cars and down in the city of Dover, and he isn't afraid of a thing, nor wants to do anything mean. On the road I can let him move along at 2:40, 2:30 or 2:25 clip, as I please, and he will obey my every wish. He is all right, too, when asked to speed the wrong way of the track. His speed can be controlled the same as on the road. It is when turned the right way of the track that he asks for his head, and you can bet I am not going to let him double to go a slow mile when one in 2:15 or so is simply a good big jog for him."

"There are few trainers and drivers in America that can teach J. B. Chandler much more than he already knows at the art of developing the light-harness horse from babyhood up, and the number is even less that can speak their mind more concisely and to the point. At one of the Grand Circuit meetings," writes "Driftwood" in "The Horse Breeder," "the judges removed one of the drivers for not driving to win, and asked Mr. Chandler to drive. He immediately went into the stand and to the astonished judges stated that he would also pull the horse if he drove him. 'What do you mean by making such a statement?' said the presiding judge. 'I mean, sir, that I have \$500 in pools on the other horse.' Further explanation was unnecessary. On another occasion at St. Paul the scoring in a race had become quite tedious. The starting judge called to Mr. Chandler in a very severe tone, calculated to impress the driver with a wholesome fear of the consequence: 'You must bring your horse up with the pole horse, and don't delay any longer.' The answer was prompt: 'Sir, I have educated this mare from the time she was first broken until the present day, but to step a quarter at a two-minute gait is a part of her education that has not yet been completed.' It is needless to add the starter ordered the pole horse to come slower."

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mal .454 of a second representing both and would be the same indefinitely. It was something of a surprise when I discovered that a stride of 24 feet in a 1:40 gait was exactly the same as one of 20 feet in 2:30, regarding the quickness of the action. These strides were taken as fair examples of the flying gallop and the very fast trot, close to the limit in the ground covered, and when in making the second calculation the figures kept coming 4, 5, 4, 5. I held it to be favorable augury that a trotter would come to the front which had the stride and rapidity of action—quickness of gait, the old-time horseman called it—to accomplish the feat. Assuming that The Abbot had a stride of a shade under 19 feet when he trotted the quarter in 29 seconds, the duration of each .442 seconds. That The Abbot can trot a 'measured mile' in two minutes is reasonably well assured. Salvator ran a mile on a straight course some three seconds faster than the record on a circular, and the difference between 1:35 and a fraction and 1:38 and a fraction, and 2:30 and 2:33 is enough to install the Champion the choice against time, should it come off in a direct line on good ground, and Geers pronounces him 'it.'"

## WHAT GIVES A RECORD.

Editor RURAL WORLD: I am the owner of the Dusquill, by Duquesne, 2800, record 2:17, first dam Maud, by Regular, son of Volunteer 55. Dusquill has already served 55 mares this season, and has more engaged to him. Please publish through the RURAL WORLD what it takes to qualify a horse to be eligible to record in American Trotting Association.

Reply.—It takes speed enough to win a heat or a race on any race track that is a member of the American Trotting Association, the race to be trotted under the rules of said association. A heat won on any track, at any County Fair, or regular trotting meeting, if according to the rules of the Association, gives a horse a record in the time announced from the stand.

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Editor RURAL WORLD: The "Western Horseman" comes to hand much improved since the name of Dr. J. W. Neal again fills the head as managing editor. Bill Columbus goes merrily on cracking his old chestnuts. He ought to write stories for the Augusta, Me., story papers. They do not deal in facts, and to meet their demands he would not have to change enough to trouble himself. Notice—"Palmost stood second last season as a sire of speed, age considered."

What gives a record? It takes speed enough to win a heat or a race on any race track that is a member of the American Trotting Association, the race to be trotted under the rules of said association. A heat won on any track, at any County Fair, or regular trotting meeting, if according to the rules of the Association, gives a horse a record in the time announced from the stand.

With the thermometer climbing up to the mark, the classes were not well filled, though the racing was quite good at Forest Park at last Saturday's matinee.

The summaries:

Classified trot:

Meadow Rue, blk. g., Thomas Knox. 1 1  
Mongri, blk. m., Colman Stock Farm. 2 2  
Louis Medium, g. g., Louis Speilbrink. 3 4  
Lucky Boy, g. g., Clem Welch. 4 3  
Time—2:35, 2:35.

Classified pace:

King Mack, b. g., Louis Speilbrink. 1 1  
Hal Dumas, b. g., Montesuma Sta. 2 1  
Indian Jack, b. g., Jos. Hennessey. 3 3  
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It requires wonderful imagination to invent stories like that for a horse with only two in the list, and one of those only just inside, in one heat in a purse for \$50, and neither of the other heats within ten seconds of standard time. This mare, Lady Ruth, is strictly trotting bred. The only performer that could attract attention to the sire is out of a pacing mare with a pacing record of 2:30, and sired by a grandson of Blue Bull. Cart horses are bred in the same line, and even a few thoroughbreds could be counted in the same list. Crito, 2:14 to bike, has ten heats; Col. Lewis, 2:18 to high wheels, sired by a thoroughbred, has 21 winning heats. It is safe to keep in bounds of truth in speaking of any horse. Falmost can not make a reputation on Crito alone, and at the present time he has nothing else to warrant an assumption of greatness.

The 15-year-old sire Albert M., 2:30, and sire of Crito, 2:14, and Ray Wilkes, 2:25, is now owned at Lamar, Mo. I had begun to look at Lamar, as I did at the "Western Horseman," as practically out of the competition. They also have Judge Burnham 2700, son of Adrian Wilkes 6500, out of Medora, by Mambrino Howard 1355, the dam of Fats Oaks, 2:26 (p.), 2:24, by Trump 1387, and her brother Trumpetone (p.), 2:24. Trump is by Adrian Wilkes, dam Collette, by King Cole 3100, son of Masterlode. Lamar has bred some good ones, Bessie T., 2:10, being the fastest.

Mr. Juckett is handling a two-year-old by Roulette, dam Yucca, by Akbar, son of Boonville, Almont, Jr., second dam by Tennessee Wilkes. This mare is owned by George M. Isenhower, of Milford, Mo. She has been bred and is in foal to Redward 3225, by Eagle 2215, son of Onward. Mr. Isenhower is a new breeder and has a standard mare, Olie G., by Rushville 3303, son of Blue Bull 715, in foal to Albert M. The dam of this mare is Minnie Dean, by General Gage 425, a brother to Judge Burnham. The starting judge called to Mr. Chandler in a very severe tone, calculated to impress the driver with a wholesome fear of the consequence: 'You must bring your horse up with the pole horse, and don't delay any longer.' The answer was prompt: 'Sir, I have educated this mare from the time she was first broken until the present day, but to step a quarter at a two-minute gait is a part of her education that has not yet been completed.' It is needless to add the starter ordered the pole horse to come slower."

"The longest trotting stride I ever 'taped,'" writes Joseph Cairn Simpson in "The Horse Review," "was 30.5 feet, the longest running 28 feet. Three trotters, Queen of the West, Ida May and Gloster, made that mark; the only runner, Chance, and he by Venture, the sire of the dam of Directum. The second longest running stride was 26 feet; the most of them were from 19 to 24 feet. When Asote and Alia trotted on the Oakland track the stride of each was a little over 19 feet. When a runner can run a mile in 1:40 on a stride of 24 feet, it is evident, that so far as length of stride governs, 20 feet would be ample to enable the trotter to make the mile in two minutes. The runner makes 200 strides in the mile, the trotter 264 strides, and the time of the stride of each is exactly alike, the de-

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## MOBERLY, MO., RACES.

July 23, 24, 25, 26.

2:45 Trot.	\$200	2:35 Pace.	\$200
2:30 " "	200	2:25 " "	200
2:23 " "	200	2:17 " "	200
2:19 " "	200	Free-for-all Pace.	200

Running, 1-2 mile dash, \$100; 6 furlongs, \$100; 3-4 mile dash, \$100; 4-1/2 furlongs, \$100; 1 mile Novelty, \$25 for each 1-4, \$100; 5 furlongs, \$100; 3-4 mile dash, \$100; horses that have not been one or two or three at this meeting, 1-2 mile dash, \$100. Entries close July 17th. Records no bar after June 18th.

Entrance fee for runners, pacers and trotters, 5 per cent and 5 per cent additional for winners. American Trotting Association rules govern this meeting.

A. A. DINGLE, President. E. W. ROBERTS, Secretary. W. W. CARTER, Track Manager.

## CARTHAGE, MO., MARKET FAIR.

4 STAKE RACES.

Sept. 17th to 20th.

## FOLLOWING STATE FAIR.

No. 1-2:40 Trot.....	\$500	No. 3-2:35 Pace.....	\$500
No. 2-2:35 Pacing.....	500	No. 4-2:30 Pace.....	500

Stakes close July 16th. Horses eligible at time of closing. Two per cent with nomination, 1 per cent August 15th, 3 per cent September 16th. Ten purse races to close September 10. Five per cent addition from month winners. Privileges to let.

**ISAAC NORRIS, Secretary and General Manager.**

## Home Circle.

Written for the RURAL WORLD.  
GOLDEN SEAS—A HARVEST IDYL.

Rolling far and rolling wide,  
Boatless waves and wind-swept tide,  
In the smile of summer rays,  
Side by side with 'whispering' maize,  
Where the locust casts its blooms  
On the lichen-covered tomb,  
Down the clover-pinked lanes,  
Traversed by the creaking wanes;  
'Long the turnpike's dusty way,  
Squaring up the fields of hay;  
Where the wild grape's dense festoons  
Twilight make of summer noons;  
Circling 'round the silent school,  
Waving o'er the spring-flood pool;  
Stirring grove and pasture land,  
Where the hermit oak trees stand,  
Rolling by the orchard lots,  
Flowing round the berry plots;  
Farther than the eyes dim sight,  
Way beyond the bounds of night,  
Gently ruffled in the breeze,  
Peacefully roll the golden seas.

Slow and steady, sure and strong,  
Runs the ancient harvest song.  
Hush! . . . Rest!  
Hush! . . . Rest!  
Falls the golden swath of grain;  
Hush! . . . Rest!  
Hush! . . . Rest!  
Crest the valley, o'er the plain.

Follows then the binder's whir,  
Triple-horsed, discharging sheaves,  
King of harvest, usurper  
And the ancient cradle grooves.

Down beneath the surging billows,  
Midst the clover, newly springing,  
By the ranks of weeping willows  
Hear the crickets happy singing,  
And the bobwhite runs about  
And the turnip tops are out  
Thro' long vistas of the wood,  
Far upon the sun-kissed hills,  
Where the wild duck rears her brood—  
Everywhere God's bounty wills,  
Filling up earth's granaries  
Flash the mellow, golden seas.

Lo! the reaping days are over:  
'Neath the hot sun burns the clover;  
Golden seas are passed away  
And no more their billows play.

Cumulous o'er hill, vale and plain  
Spread the glistering tents of grain;  
Like some great vast army camping,  
With no noise of horse's stamping,  
And no princely soldier's tramping,  
Silent o'er hill, vale and plain.

ALEXANDER P. HUSTON.  
Clermont Co., O.

Written for the RURAL WORLD.  
THAT FOURTH OF JULY.

The writer has no more pleasant memory than that of the first Fourth of July celebration in Missouri. Having been brought up in an Eastern city, and having just completed a school course when the family moved to this state, I had no knowledge of Fourth of July celebrations other than the noisy, ear-splitting, nerve-racking affairs that city people enjoy—no; endure with long suffering patience, wishing many times, if too patriotic to voice such traitorous sentiments, in words that there never was a Fourth of July.

The new home was made in this prairie section of N. W. Missouri, and for strabine picnic grounds were not always to be found; yet not far distant was a stream known as Marrow Bone Creek, and this was skirted with quite a good growth of timber.

The farmers in this community were all pioneers, and were a most intelligent class of people, the majority of them being New Englanders or of New England parentage; and the love of liberty was not permitted to assume, though booming cannon and processions and flying banners were not the possible order of the hour. Instead a genuine neighborhood picnic of farmers was planned for. Most beautiful grounds were selected along the creek, and within an hour's ride of the most distant located family. Water was convenient, and teams were made comfortable. Grounds were cleared for two or three croquet sets and swings put up. Well filled baskets were taken by each family. When the noon hour came table cloths were spread on the grass and an almost hollow square formed. This plan kept the company together during the lunch hour. Articles of food were exchanged by families sitting near each other, and wholesome merriment ruled for the time, and all seemed "merry as a marriage bell."

There were no lemonade, ice cream or peanut stands to mar one's pleasure, and give an air of barter and trade to the occasion. Flowers were gathered; hats gorgeously decorated. Old-fashioned games were played, in which grandiose and grand child participated. Youthful swains looked admiringly on young maidens, who, in turn, looked coyly on their youths. Thus the day passed in pleasant chat, innocent games amid pleasant scenes. The gathering dispersed in time to attend properly to the evening chores, and no boys returned with breath tainted with rum, as was, said to say, sometimes the case when, in later years, the old-fashioned Fourth of July picnic was deserted for the celebration in the adjoining town.

If the best of the young people, aided by their parents, will plan for an up-to-date picnic of the families of their neighborhood, to be held in a grove or a near-by woods, the occasion will long be cherished as one of the most delightful. I grow weary when I think of waiting on the corner, under a scorching sun, for the procession to pass, or of trying to listen to some patriotic orator, when there is a hum of voices all around, and of those cheerless stands where lemonade glasses and ice cream dishes have the lick-and-promise washes.

Ice cream is most palatable on the Fourth of July, and by a little effort in soliciting the milk and cream, sugar, flavoring and either the ice or the money to purchase it, ice cream may be a part of the menu. It can be made on the ground. The boys and girls would think this part of the fun.

Picnics of this character are enjoyable because everybody knows everybody. The families of a school district are enough to include. No city celebration has ever given that delightful freshness of true enjoyment that did my first one in Missouri.

MRS. MARY ANDERSON.  
Caldwell Co., Mo.

**MRS. WINSLOW'S SOOTHING SYRUP**  
Has been used for over sixty years by millions of mothers for their children's ailments. It soothes the child, cures the colic, soothes the gums, allays all pain, cures wind colic, and is the best remedy for diarrhoea. Sold by Druggists in every part of the world. Be sure and ask for "Mrs. Winslow's Soothing Syrup," and take no other kind. Twenty-five cents a bottle.

Written for the RURAL WORLD.  
COUNTRY FOLKS SEEING THE ELEPHANT.

We left Brooklyn, one of the suburbs, on the street car, passing Latona, Fremont, and nearly round Lake Union. We passed the great lumber mills, and raft of logs here. A short walk after leaving this car and we are in Kass; still another suburb. Here we visited the fine school building of the M. E. Church; it is situated on a hill on magnificent grounds. We met the president, principal and professors, and had a very pleasant visit indeed. After lunch we took the Ballard street car for Grant street. "This is to make you sick of Seattle," said Mrs. S. A wooden elephant, gayly painted, on a side hill, made us sure we had seen that animal for once. The tide was coming in, much to my friend's regret, as she wanted us to see the most ill-conditioned part of the city—mud, algae, debris and all. The river from the car windows was all we wished to see. It was enough—the black tide creeping in over the debris, old boats, lumber and refuse of all kinds, the hovels and dilapidated habitations of the poor, often built on piles, are set back in the banks.

This seemed bad enough in the Ballard street car, but when we transferred to Grant street, even the people on the cars seemed changed. These cars were not for fastidious people; men and women, with toll-worn hands, and toll-worn hearts were there, if one judged by faces. Out over the piles and trestles, over the creeping, black treacherous water, we moved rapidly ever onward; out past Bayview and Georgetown and Breneris. The lumber yards were built on piles and trestles. Out on this line are a hospital and the county poor farm, extending out to the Dwanish River, among the green fields, in the pure air. If it were not for the green hills what would the poor people do? As we went back we noted the great gas tanks, the Vulcan Iron Works, Centennial Flouring Mills, the elevators and the fine buildings. We were glad to get back to the University car and leave this grim district for a fairer one.

One day we visited the Old State University. It is situated in the heart of the city. The public library is kept here now; that is what is left from the fire which nearly destroyed it.

Another day we visited the book stores and came back with an armful of books, yielding to temptation to the detriment of our purses' contents. Then we went shopping and visited art studios, gazed at the fine business buildings, had our pictures taken, looked into the store windows and wondered where all the folks were going to.

Another day we visited the new State University. It is very fine, with splendid grounds and beautiful views of Lake Washington and the mountains. The museum interested us most. Here are curiosities from all lands, some of the collections being very fine, the Indian relics especially. "Let us go to Leschi Park," Mrs. S. proposed. "It is too late! It is raining, too!" But like naughty girls, we wanted to go because we ought not. It is 18 miles on the street cars out to Lake Washington, where the park, named for an old Indian Chief, Leschi, is situated. This road runs through the most beautiful part of the city. The park grounds are beautifully laid out and show great care. The flowers are very fine, even for this land of flowers. There is a great hall, covered with ivy. There is quite a zoological garden. The few people who saw us that rainy afternoon, running about to see the elk, feeding the monkeys, and looking at the bears, and saw that we had no trouble in determining that we were country folks.

"Let us not tell mother where we've been," said one of the party, as we neared home. "She will think it is terrible," said another one with a laugh. "Where have you been, girls?" asked mother. "There was something in the air, brought back the time when we always told mother everything, so we confessed, and if we did not get a scolding, it was not because we did not deserve it. ELLA CARPENTER. Whatcom Co., Wash.

Written for the RURAL WORLD.  
THE AMERICAN FLAG.

The flag of my country! how proudly I hail its stripes and its stars, as it floats in the breeze.

From battlement, tower and mast, o'er a land As free as the air by which it is fanned! A terror alike to the tyrant and slave; But the standard where rally the good and the brave.

The flag of our Union is, indeed, the grandest and most beautiful national emblem that floats to the breeze to-day. Its history is the history of the growth and greatness of this great nation. Like the nation it was born amidst a fearful contest. The government it then represented consisted of a few scattered colonies, situated along the Atlantic coast, thinly inhabited and impoverished by war. Out of that great struggle came a Union of states that was destined to become the glory of the world and to establish the fact that a free republic, a government by the people for the people can be maintained. As it grew in population and wealth the difficulties that surrounded its progress were overcome and its stability gradually but surely increased and the star of empire began its westward march. As the years rolled on it spread its wings until all the vast domain to the Pacific ocean, from the Lakes to the Gulf, was gathered beneath the ample folds of the Stars and Stripes; state after state was born to the Union and star after star added to the flag. The population, wealth and intelligence multiplied almost beyond the wildest dreams of the poet and its power was felt to earth's remotest bound.

The came the first note of danger to the life of the republic. The cloud of discord, generating for years until it overshadowed the land like a dark pall, suddenly burst forth in the fury of civil war. Four years of war followed, the most terrible in the annals of history, the victims of the blood of the nation, the victims of the Union firmly established, with Old Glory waving over a united land. The people rearing their peaceful pursuits, and a long reign of advancement ensued in population, in the arts and sciences, in intelligence and freedom of thought and action unparalleled in the world's history. The domain over which the beautiful emblem of the free waved majestically became the haven of the oppressed of other lands.

The victims of the monarchical governments of Europe appealed for succor and the cry was not unheeded; finally the

will of the patriots of Cuba was heard and in extending the hand of fellowship, the most dastardly deed of modern times was perpetrated, if not by the consent, at least by the connivance of the despot, battling to perpetuate his iron rule over the destinies of the people of that fair land. Again the sons of America, from the North and from the South, rallied around the old flag and the cohorts of tyranny were soon driven over the ocean and the American flag with its noble defenders had once more triumphed over its assailants. That war placed our republic among the foremost nations of earth. Its power is acknowledged and its flag honored by all people. Thus shall survive and be perpetuated the American Union, and its glorious emblem, the American flag, shall wave as the harbinger of the brave and the free until it shall be proclaimed that time shall be no more and the curtain falls forever.

The Cliff, Ill. DYPE.

Written for the RURAL WORLD.  
JOYS OF SUMMER ON A FARM.

As the days grow warmer and the air becomes more stifling, I wish again and again we might share our pretty country home with some of the little children and tired "grown ups" of the large cities. I know nothing of the heat of great cities, but if it is anything like it is often represented, how much I pity the unhealthy, the poor and the little children; and how can the dear old people bear it? I have always thought that very old people could find far more happiness in the country than in town. Perhaps it is because I know how contented my grandparents are among the green growing things. Why, what would grandma do without her flowers and garden?

It seems strange to me to think of life in a large town, for I know absolutely nothing of it. There are certainly many advantages as public libraries, good schools, churches and music; and I think it would be grand to live in town part of the winter months. But with the first blue bird's song I would want to go back to the country. Spring and all the seasons are so grand on the farm. In the evenings it is beautiful to watch the long, stretching shadows, to hear the gentle bird calls and feel the cool, soft breezes and see the cows coming slowly home through the gathering dusk.

What is the rain like in your cities? What can it be like without the green grass and shining leaves? Do you never see "the bridge of colors seven," the "bow of promise"? The wild roses in June could not be gathered in great armfuls, and one could never even see the big blue daisies. What could make up for the song of the tiny ground sparrows and the pretty call of the quail.

"No king on his throne is so happy to-night As the farmer boy perched on a rail; Whose notes ripple out through the soft mellow light, And the echoes ring back through the vale."

His faithful dog Rover, so lovingly shares His merry young master's delight, The throaty chiming in with his joy thrilling note, And the quail whistles out, "all is right."

Birds and all living creatures have such interesting ways if we would but take time to notice them.

Last fall I saw such a pretty scene "behind the curtain." I had been on a long ramble and becoming tired sat down on the branch of a fallen tree to rest. Presently I heard such an odd little chirping note and looking up, saw a little brown quail upon a post among the brambles and weeds of an old fence row. The fence had been moved and the old posts left; between the two fences was a wide, clear space; down into this the little quail flew and I followed to investigate. I made my way through the briars as quietly as I could, but just as I came near the two little parents flew up with a great fluttering of wings and piteous crying, and lit almost at my feet, at the same instant into the grass fluttered the little brood, uttering frightened little cries. Until they were safely hidden the parent birds fluttered and cried before me, scarcely six feet distant, pretending to be wounded. When the little quails were safely hidden I flew to a branch of a crab tree near by, but still kept up their distressed calling.

Not long afterwards I saw a spider "at home." It had built on a low bush its great shining web. A grasshopper had become entangled in it, and I arrived just in time to see the spider weave him fast.

The spider wove round and round the grasshopper many times, weaving at once a great web of coarse strong threads. He seemed particular to get the hind legs fastened well and wore a regular armor around the poor thing's head. I did not know spider webs were so strong, but when I went to break with my switch the threads that bound him, they would hardly let go. I wanted to see the spider do it all over again but this he refused to do. He went on to the edge of his web and seemed to be basking in the sun.

PEARL.  
Montgomery Co., Mo.

FAMOUS BOYS.

A Swedish boy fell out a window and was severely hurt, but with clenched lips he kept back the cry of pain. The king, Gustavus Adolphus, who saw the fall, prophesied that that boy would make a man for an emergency; and so he did, for he became the famous General Batur.

A woman fell off the dock in Italy. No one of the crowd dared to jump in after her, but a boy struck the water almost as soon as she, and managed to keep her up until stronger arms got hold of her.

Everybody said the boy was very daring, very kind, very quick, but also very reckless, for he might have been drowned.

The boy was Garibaldi, and if you will read his life, you will find there was just his traits all through—that he was so alert that nobody could tell when he would make an attack with his red-shirted soldiers, so indiscreet as to make his fellow patriots wish he was in Guinea, but also so brave and magnanimous that all the world, except tyrants, loved to hear and talk about him.

A boy used to crush flowers to get their color, and painted the white side of his father's cottage in Tyrol with all sorts of pictures, which the mountaineers gazed at as wonderful. He was the great artist Titian.

An old painter watched a little fellow who amused himself making drawings of his pot and brushes, easel and stool, and said: "That boy will beat me some day." So he did, for he was Michael Angelo.—Selected.

WHEN MOLLY RODE BEHIND.  
Frank L. Stanton.

The bees were in the blossoms an' the woods were white as snow,  
With miles an' miles o' daisies in a springtime long ago;  
An' the winds from dreamin' meadows came with kisses sweet an' kind  
When I drove the cows from pastur' an' when Molly rode behind.

I remember all about it—the pathway through the dells,  
When the old mare timed her footsteps to the music of the bells  
That clanked the whole way home 'ards to the merry milkin' place,  
But mostly I remember Molly's curls about my face.

For, ridin' there behind me ever breezin' a blowin' free  
Would catch 'em an' would kiss 'em an' toss 'em over me.  
An' sometimes, too, I turned my head to see her bright eyes shine.  
An' our faces come together an' her lips were close to mine.

I didn't mind the labor in the fields or in the glades—  
The long an' weary furrows where the young corn waved its blades.  
For I knew that 'fore the twilight came a sweet reward I'd find—  
I'd drive the cows from pastur' an' Molly'd ride behind.

An' once the folks got anxious an' said:  
"The cows are late."  
"They looked an' looked for Molly an' the old mare at the gate;  
An' the reason was I'd 'said the word' an' an' kinder spoke my mind;  
The old mare run away with me an' Molly rode behind."

Written for the RURAL WORLD.  
HOW TO WASH BLANKETS.

At this season of the year when the carpet sweeper sees that everything about the home is rendered as sweet and clean as soap and water can make it, the heavy bedding and blankets used during the winter months will be examined, thoroughly aired and all that are at all soiled washed before packing them away for the summer. The washing of fine blankets is quite an art and should never be trusted to an ordinary washer woman, as they are easily stiffened and ruined. The following directions, if observed, will be found satisfactory. First select a clear day and begin early in the morning, as one needs the whole day to make sure that the blankets are perfectly dry before leaving the line. Make a strong sudsy before the blanket is wet, so that no soap will adhere to it; have the water hotter than the hands will bear, and wash but one blanket at a time. Put the blanket in the hot sudsy, pressing it well under the water with the clothes stick. Prepare a second water, not using so much soap as in the first, and as it is better to have the rinse water for woollens a little soapy. Put bluing into the third water and be sure that it is well dissolved. Do not rub the blankets on the line, but press up and down in the suds until clean. Rubbing curls the nap of the blanket into little hard balls, for the same reason a wringer should not be used. Wring lightly with the hands and stretch well after washing through each water. Especial care should be given the last time to pull the corners straight and the blankets should be hung straight lengthwise and securely pinned on the line through a fine sieve or powder, and the blanket should never be used on blankets, but a teaspoonful of powdered borax to a gallon of water will serve to soften them.

ELIZA R. PARKER.  
Trimble Co., Ky.

GOOD WHITEWASH.

Take half a bushel of unslaked lime. Slack it with boiling water. Cover during the process to keep in steam. Strain the liquid through a cloth or strainer. Then add to it a peck of salt, previously dissolved in warm water; three pounds of ground rice boiled to a thin paste and stirred in while hot; half a pound of Spanish whiting, and one pound of clean glue, previously dissolved by soaking in cold water, and then by hanging over a slow fire in a small pot hung in a larger one filled with water. Add live gas and the water to the mixture, stir well, and let it stand a few days covered from dirt. It should be applied hot, for which purpose it can be kept in a kettle or portable furnace.

A pint of this whitewash mixture if properly applied, will cover one square yard. It is almost as serviceable as paint, for wood, brick, or stone, and is much cheaper than the cheapest paint. Color may be added as desired. For cream color add yellow ochre; for pearl or lead color add lampblack or ivory black; for fawn color add proportionately four pounds of umber to one pound of common lampblack; for common stone color add proportionately four pounds of raw umber to two pounds lampblack.

The east end of the President's house at Washington is embellished by this brilliant whitewash, and it is used by the Government to whitewash light-houses.—Green's Fruit Grower.

TIMELY RECIPES.

SPICED CHERRIES.—To seven pounds cherries allow one pint vinegar and four pounds sugar. Mix one-half ounce ginger root, one teaspoonful ground cloves, two teaspoonful allspice, two teaspoonful cinnamon and one-half teaspoonful ground mace; tie in a muslin bag and put it in a preserving kettle with the sugar and vinegar. When it boils add the cherries; bring to the boiling point again and pour carefully into a jar. The next morning drain the vinegar from the fruit, heat it again and pour it over the cherries. Do succession for four days. The fruit should be boiled for four days to the juice to just enough to cover the fruit. Add the fruit, let come to a boil and can.

RHUBARB JAM is an English delicacy, which is hardly known in this country. It makes a refreshing dish for luncheon. The proportions to be observed are a pound of the granulated sugar, the rhubarb in the form of every pound of rhubarb. Wipe the stalks perfectly dry, then peel them and cut into small pieces; mix the lemon rind very small, add it and the sugar to the rhubarb, put all into the preserving kettle, and cook until the rhubarb is soft for four days and stir constantly to prevent scorching. When it is thoroughly done, pour into earthen marmalade jars, or into jelly glasses, and when cold cover with paper dipped in the beaten white of egg, then the another paper closely over, and set in a cool, dry and dark place. It will keep well.

BOYS AND GIRLS.

can make money selling our goods. We pay 10 per cent commission. Send for free samples and instructions. MODERN REMEDY CO., Kewanee, Ill.

## Poultry Yard.

OVERDOING IT.

Editor RURAL WORLD:

"Small fowls in brisk demand at eleven cents; heavy fowls not wanted." The above is the heading of a New York market report of May 17 last. It is a splendid text from which to preach a sermon on present day foolishness in breeding fowls. Advertisers and writers on poultry subjects frequently boast of the great weights of their chickens, ducks, turkeys or geese, not one of whom if plucked down to it, could give a good reason why such qualities are either desirable or profitable, much less prove it. Extra size is always purchased at the cost of early development, which in the fowl is always an especially desirable trait.

There never has been a demand at top prices for forty-pound turkeys, ten-pound hens or any fowl that weighs about double the average weight. It is all well enough to boast of twenty-pound geese to those who are equally ignorant of the demands of the retail market, but, on second thought, most any one should know that the consumer would have to have an uncontrollable passion for goose grease, indeed, to want as much at one dose as he would get from a twenty-pounder. A fully matured twenty-pound gobbler, a six to seven pound hen, a ten-pound goose, live weight, is as large as the best trade of the cities demand, and good sense on the part of poultry breeders would dictate a conformity to the wishes of those who do the buying.

Swine breeders have long since found out that the market demands a small-boned, well-fattened and matured hog of about 200 pounds weight. They don't boast of Poland-Chinese, Berkshire or Durocs that will weigh 600 or 1,000 pounds, as one of the latter breed weighed that was exhibited at the St. Louis Fair a few years ago. What they have a right to be proud of is the fact that they have taken these several breeds and by intelligent selection and careful attention to the real utility of the breed, have produced a hog that will weigh from 200 to 250 pounds (the most desirable size) in six months. The man that would keep hogs nowadays until they weighed five or six hundred pounds, would be away behind the times, almost as far behind as poultry breeders are in their breeding for the eye of the poultry judge instead of the consumer.

I thank the RURAL WORLD for the extract from the English writer in regard to the degeneracy of the Light Brahma. I haven't the least doubt as to the truth of every assertion he has made. I trust the RURAL WORLD will give us more such articles.

What a time we have had in infusing Atlantic blood into dunghills for size, only to hear now that "small fowls are in demand at eleven cents per pound; heavy fowls not wanted." Some people need a brick house to fall on their heads before they will take a hint, but in this case it will need a brick market house.

Let poultry breeders develop a hen that matures at the earliest possible time and yet reach the most desirable market size. Such a fowl is then either ready to sell at top prices or is ready to lay eggs, which makes her even more profitable to keep. With such a breed, the average poultry raiser would not care a continental what color the feathers were. It is such a breed that is demanded. If the RURAL WORLD will continue to permit both sides of the question the general public stands a good show of having its eyes opened in regard to the past and present of the poultry breeding.

J. G. KINDER.

DUCKS.

I would not advise a farmer's wife to go into duck raising, excepting that they will bring in a big sum of money; although it is a safer to raise some of all kinds of poultry than to confine oneself to but one or two varieties.

For me, ducks have been easy to raise. In the first place, the eggs hatch well, very few die, and they start right out to hunt for a living as soon as they are out of the shell; to be sure, they will eat everything you give them and all they can steal from the other poultry; but, on the other hand, if you don't feed them much they know how to "rustle" for a living, and are ambitious enough to get it, too; bugs, flies, worms, grasshoppers, grass, weeds, all go with them; and if there is a paling off the garden fence they can thin out the lettuce bed or trim up the cabbage in short order. If you don't like their gardening, nail the paling on again; it will look better, anyhow.—Ex.

MRS. A. GREENER.  
Cleveland Co., Okl.

TURKEYS AS INSECT DESTROYERS.

We read a great deal in the farm papers about the benefits of the quail on the farm as an insect destroyer, but no one notes the value of the common domestic turkey in that capacity, writes Mrs. F. M. Smith in "Farmer's Voice."

It would be profitable to most farmers in three days of myriads of insect pests to inclose their farms with good wire fence, so that they could keep the turkeys at home, and then breed a flock each year, the size of which should correspond to the size of the farms. On a farm of 50 acres a flock of 40 or 50 can be raised with very little expense, until the insects are gone in the fall. From that time on until the corn they will eat until selling time, and the clear profit will be double that on each pound of hog flesh sold.

We have been raising turkeys 13 years and consider them the most profitable crop on the farm. We have watched and studied their ways and needs until we have learned to handle them so that we now have a very small percentage of loss with young poult. We always have grain or sour milk curd (which is better), for when they come up nights, all through the summer, and it adds to their weight, while it proves a great inducement to bring them home at night. Plenty of water and always in the same place is another essential, and last, but not least of their needs, is a good out-of-doors roost that is easy of access to the little ones. We let our turkey hens raise the little ones. The natural mother knows their needs and nature better than a chicken hen does, and it is much less trouble to the housewife. The turkey hen takes them off to the fields, where they convert worms, crickets, grasshoppers, etc., into flesh, which sells for cash at the farmer's door.

THE HOLLYHOCK.

A writer in the poultry column of a contemporary urges the planting of hollyhocks as chicken food, says the "Am. Gardening." "I have been using hollyhock for poultry green fodder for twenty years. I saw him feeding armfuls of the leaves to his hens. Ever since that I have sowed hollyhocks regularly. The trouble is very little. The plant is a biennial. That is to say, it requires two years to come to blossom. In the first year it merely develops the root and a lot of leaves, of large size, on soft stems from one to three feet high. These leaves are tender and the hens relish them.

"I cut off the rank clumps of leaves a number of times during the first summer. By planting every year I keep one or

"I took two bottles of Doctor Pierce's Golden Medical Discovery, for stomach trouble," writes Clarence Carson, Esq., of Taylor, Louisiana Co., Va. "It did me so much good, that I didn't take any more. I can eat now anything now. I am so well pleased with it that I thought I would thank you for your kind information. I tried a whole lot of things before I wrote to you. There was a gentleman told me about your medicine, how it had cured his wife. I thought I would try a bottle of it. Am now glad that I did for I don't know what I would have done if it had not been for Dr. Pierce's Golden Medical Discovery."

Dr. Pierce's Pleasant Pellets regulate the bowels and cure constipation.

IS THERE any Pure White Lead nowadays? Yes, and it is made in the old-fashioned way by the "old Dutch process" of slow corrosion. The brands named in margin are genuine, and, with pure Linseed Oil, they make the only durable and satisfactory paint.

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and this is the unanimous verdict of its more than half a million readers. It is BEYOND ALL COMPARISON, the biggest, best and cheapest national news and family journal published in America. It is STRICTLY REPUBLICAN in politics, but is above all a NEWS PAPER, and gives ALL THE NEWS promptly, accurately and impartially. IT IS INDISPENSABLE to the Farmer, Merchant or Professional man who desires to keep thoroughly posted, but has not the time to read a large daily paper, while its great variety of well-selected reading matter makes it an INVALUABLE HOME AND FAMILY PAPER.

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Rural World and Globe-Democrat—Either Address, Both for \$1.50 net.

OKLAHOMA NOTES.

Editor RURAL WORLD: This is an ideal poultry country. At this writing I have 200 chickens ranging from three months to a few days old. You see, I am in the poultry business with hen incubators.

I liked Aunt Sue's letter in the RURAL WORLD of May 15, regarding incubators. Her suggestions are sound, practical, and if possible will next year have a 150-egg incubator like the one she mentions.

I enjoyed Mr. Kinder's letter of May 8, although it is true that he is "kinder" hard on those "hifalutin' show breeders." Here is one who votes on Mr. Kinder's side. And please, Mr. Editor, don't keep his letters in the pigeon hole so long, but turn him loose and he will revolutionize the whole poultry business.

I prefer the mixed stock, for they are less troublesome and more profitable in an ordinary way than the fancy breeds. I have as fine a bunch of mixed poultry as I wish or any farmer's wife need care to have for every day use. I get plenty of eggs for all purposes, and some to sell from 50 hens.

MRS. A. GREENER.  
Cleveland Co., Okl.

TURKEYS AS INSECT DESTROYERS.

We read a great deal in the farm papers about the benefits of the quail on the farm as an insect destroyer, but no one notes the value of the common domestic turkey in that capacity, writes Mrs. F. M. Smith in "Farmer's Voice."

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**Save Money**  
—that is, save the per cent which you have to pay the dealer when you buy fence from him. **ADVANCE FENCE CO.** has a large stock of **ADVANCE FENCE CO.** in its factory at wholesale price. If you go you will order the second and third time. Special prices, etc. **ADVANCE FENCE CO., 1100 1/2 St., Peoria, Ill.**

**Pig-Tight**  
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With Dupont's Woven Wire Fence Machine, any farmer can make 100 rods and from 50 to 70 rods a day. Call on the agent at a cost of 25c. per rod. **ADVANCE FENCE CO.** has a large stock of **ADVANCE FENCE CO.** in its factory at wholesale price. If you go you will order the second and third time. Special prices, etc. **ADVANCE FENCE CO., 1100 1/2 St., Peoria, Ill.**

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**MOORE'S HOG REMEDY**  
Kills Lice, removes Worms, cures Mange, Scoury and Canker, produces flesh and prevents Cholera, at a cost of **Five Cents Per Hog Per Year.** Full particulars and look on "Care of Hogs" free. **Ad. dress: Moore's Co., Stock Yards, Kansas City, Mo.**

**SHROPSHIRE RAMS,**  
all yearlings, for sale; also my stud ram for sale or trade for any good.  
**Address: L. G. JONES, Towanda, Ill.**

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**LARGE ENGLISH BERKSHIRES—\$3.00** boys a pair of either sex. **Black, White, Blue, and Red.** **P. R. Chickens; White Turkeys.** **Geo. W. McIntosh, Monett, Mo.**

**POLAND-CHINAS.**  
**POLAND CHINAS—We have some extra fancy gilts** of 100 lbs. and some fancy pigs of both sex of fall farrow to order. **Black, White, Blue, and Red.** **Price, \$10 to \$15; money returned if stock not satisfactory.** **L. A. Spies, Breeding Co., St. Jacob, Illinois.**

**Walnut Valley Farm Herd.**  
**Poland China Swine, Black U. S. and Tennessee** pigs and Jersey Cattle for sale. **Black, White, Blue, and Red.** **Eggs, \$1.50 for 15.** **ERNEST W. WALKER, Monett, Mo.**

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Breeder of the best strains of Poland-China hogs. Registered Jersey cattle and Plymouth Rock chickens. **For sale for sale at all times.**

**FOR SALE.** A nice lot of fall pigs, sired by **Milford**, a son of **U. S. 13, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.** **Perfection, dam are Look Me Over, and B. U. S. Perfection.** Eggs for setting from best strains of **P. R. Chickens; also breed Jersey cattle.** **Price reasonable.** **J. E. SUMMERS, Huntville, Randolph Co., Mo.**

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A choice lot of early pigs for sale and gilts for fall pigs. Also a few sows bred for 3d or 4d litter. Come or write. **S. Y. THORNTON, Blackwater, Mo.**

**DUROC-JERSEYS**  
and **W. P. ROCKS.**  
Choice young stock for sale. Address. **R. B. THOMAS, R. F. D. No. 4, Carthage, Mo.**

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Gilts and old sows bred; registered and pure bred. **Address: A. G. RICHARDS, Sturgeon, Mo.**

**DUROC-JERSEYS—20** sows ready for service. **Black, White, Blue, and Red.** **N. B. SAWYER, Cherryvale, Kan.**

**MAPLE HILL HERD**  
**DUROC-JERSEY HOGS.** I have a grand lot of spring pigs to offer the trader; good individuals and breeding second to none. **HARRY SNEED, Smithton, Mo.**

**BIG 2 HERDS** of Duroc-Jersey and Chester White Hogs. **Big, tough individuals. No screenings.** **Write for list of prices.** **J. E. HAYNES, Ames, Ill.**

**Duroc-Jersey and Berkshire Hogs!** Extra breeding. Satisfaction guaranteed or your money returned. **S. J. WAGNER, Pana, Ill.**

**FARMS.**  
**GET OUR FREE LIST of Farm Bargains.** **S. H. Morton & Co., Gen. Land Agts., Agricultural, Mineral, Coal and Timber Land. Office, 831 Lincoln Trust Building, St. Louis.**

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Read "The Corn Belt," a handsome monthly paper, beautifully illustrated, containing exact and truthful information about farm lands in the West. Send 25 cents in postage stamps for a year's subscription to **The Corn Belt**, c/o Adams St., Chicago.

## The Pig Pen.

RYE AS A PIG FEED.

Farmers in part of the territory visited by "The Stockman and Farmer," writes John M. Jamison of that journal, have more interest in this crop than ever before, and being without experience they are somewhat at a loss to know what to do with it. In view of the prospective price a farmer cannot see much in harvesting and threshing to encourage him to undertake the job. Yet he thinks it extremely wasteful to leave it on the land and try to gather in with the pigs and other stock. When hogs are put to glean any of the other grain crops of the farm it is desirable that it be done as rapidly as possible, wheat and oats to prevent decay from rotting, corn before the wet, inclement weather of fall sets in.

With rye there need be none of this rush. What the hogs intended for fattening do not gather before they are finished with corn for market the fall pigs can take up during the winter. Rye grain will not sprout or decay to any serious extent unless it comes in direct contact with the soil. The large amount of straw of the crop keeps a great amount of the heads from contact with the soil. The chaff will decay from the grain before the grain will lose its value as pig feed. The rye that is tramped into the soil by the hogs readily sprouts and gives fall and winter pasture in amount governed by the condition of the weather. Much of the rye sown last fall was for the ostensible purpose of giving protection to the clover and timothy. If these are a good stand and pass through the summer all right in connection with the volunteer rye that follows the hogging I cannot call to my readers' attention a combination that will be better suited for pig pasture over winter, taking care not to graze too close or allow the pigs to root. The pigs enjoy hunting through such a sward for the rye grains that are still sound and not flinty hard, but soft from the protection of the green sward surrounding them. Something in this way would be my plan of handling a rye crop if I had one this year. I long since passed a resolution not to harvest with machinery another rye crop. I have no reason to believe that a change of condition and circumstances will call for a reconsideration of the question.

Rye after threshing makes excellent pig feed but must be ground to be of value. It costs too much to get it to the troughs in this way. If left on the ground the much afforded by the straw and the protection given by the volunteer rye will carry young clover through winter, that would otherwise be heaved out by frost and lost.

THE HOG AS A MONEY MAKER.

The first thing to consider in raising hogs for profit is the brood sow. I do not think the breed has as much to do with it as good individuals. I never keep any brood sows but those out of a litter of at least 10, and good, large, growthy ones. By so doing you may expect a large litter each time, and that is the very foundation when raising hogs for profit. My sows for the last three farrowing times have averaged 10 pigs at a litter, writes a correspondent in the "Indiana Farmer."

Mate the sows with a good boar so that you may expect the pigs about the last of February or first of March, and do not wait until the last day to have good wind-proof houses ready, and with plenty of straw thrown in a week or so before, so the sow will have it mashed fine and you need have no fear of zero weather.

After a few days the sow with a large litter should be gradually brought up to full feed of as great variety as the farm can furnish. I do not think it pays to buy too much feed to make a balanced ration. Oats ground with corn and mixed with bran and skim milk is accessible to every farmer. For this and other reasons I always have my cows to come in fresh in the fall so I have milk for my fall pigs and also for my winter, or early spring ones. I will say that we sell our milk at the creamery and always buy enough skim milk to fill our cans.

By having pigs thus fed, by the time a good clover field is ready for them, they may be weaned and the sows bred for early fall pigs. In summer the best ration is good clover with some shelled corn in a pen away from the larger ones, and if you will let it, the creamery skim milk. With this ration the pigs will weigh at least 125 pounds by the time new corn is ready to feed, and then push them to get them as large as possible before the break in prices, and let them go. By so doing I have been able to get over \$1 per bushel for corn fed, after taking out all other expenses, and it is the easiest money made on a farm.

On the fall litter there is not much profit, but by having the pigs farrowed not later than the last of August, so they will get a start before winter, I think it pays to raise them. By the time they will drink I aim to have all my cows fresh, thus giving my pigs a balanced ration on milk and corn and oats, and if not too high, bran. I think it pays to put the fall pigs and get them to market by the first of May, thus letting the spring litter have the clover and also lessening the chances of cholera by not having so many on hand at once.

THORNTON'S DUROC-JERSEYS.

Editor RURAL WORLD: Please change my advertisement as per enclosed copy. I have sold all of my fall boars but two and all of my five and six months boars but two. I have a few good gilts bred for September farrow; also some not bred. Am enjoying a splendid trade in bred gilts and boars for service and the inquiry for early spring pigs is good. I shipped the first of them June 1. They were strictly No. 1. They have good strong bone, neat head and ears, and smooth body, covered with deep red glossy coat, and tipped the beam at 75 pounds each, being three months old. Mr. J. D. Eads of Warrensburg, Mo., who got one of them, wrote me that it was a choice pig. **S. Y. THORNTON, Blackwater, Mo.**

Mothers will find "Mrs. Winslow's Soothing Syrup" the Best Remedy for Children Teething.

PIG PEN POINTERS.

MR. J. E. SUMMERS, Huntville, Mo., reports a fair crop of spring pigs of excellent quality, by Pansy Perfection, he by Chief Perfection 2d; dam Pansy I know, the first prize sow at the Illinois State Fair, was by Perfect I know. The pigs are out of sows by Old Black U. S. No. 13, 17, 18, and Look Me Over. This is breeding of the very best, and the pigs ought to be good by inheritance. Mr. Summers is pricing these pigs right.

## HOW TO PASTURE HOGS.

We never ring our hogs; as our farms are on the hill, we let our hogs have large pastures to run in. When we started our pastures they contained a great many brakes or ferns. Our hogs will root these all up and eat the roots, and are killing them out, writes Bradley C. Newell in the "Rural New Yorker." In the fall, after the crops are harvested, we let them on our mowing. Some of the mowing is very rocky, and has never been plowed; then there are plots where we have taken the rocks off, and seeded down. We find that the hogs will never root the newly-seeded places, but will work the old mowing thoroughly, and after they have rooted them well over they come into clover. Now, when we turn the hogs on to them, they will feed the clover down, but do not root the turf except under apple trees. We also notice that after the hogs have rooted around the tree the apples are not wormy on that tree the next season, and that the leaves have a deeper color, and the apples are better. I would advise every farmer to keep more hogs, and never ring them. Fence off a plot and let them root, and then seed it down and take another plot. It is surprising to see what the hogs will do for them. Get some good pure-bred hogs, as it does not cost any more to raise them after one gets started, than it does to raise a grade, and there is a satisfaction in looking at a good uniform herd. As to breed, should advise selecting what the raiser thinks he would like the best, as anyone will be likely to have better success with what he takes a fancy to than with something he is not so interested in.

PIG PEN POINTERS.

Let the pigs ask for their feed occasionally, just to put an edge on their appetite. As soon as they squeal for something to eat, let them have it. Sows in advanced pregnancy should be kept alone, as a slip or strain may prove fatal; also they are liable to injure the unborn young when several are crowding in the nest. Give the new dam a warm drink of gruel after the pigs have had their fill of milk. Feed her sparingly for a few days, however, until all feverishness and inflammation have abated.

## The Shepherd.

WANTS ADVICE  
As to the Best All-Purpose Breed of Sheep.

Editor RURAL WORLD: I would like your opinion as to the best all-purpose breed of sheep. I have 80 head of nice Cotswold and Leicester ewes, and want a buck of the best all-purpose breed to put with them. I am young and inexperienced, and advice will be appreciated; also information as to where I can get such a buck as will best suit my need.

Franklin Co. Mo. W. A. POWERS.  
Either the Leicester or the Cotswold is a good general purpose sheep, and breeding his flock along one or the other line, Mr. Powers can secure satisfactory results. Should he wish to increase the number of his flock of breeding ewes and develop those that possess excellent breeding qualities and which will produce lambs having early maturing, good grazing, feeding and killing qualities, one cross with a Dorset ram on his present flock will be desirable. These ewes bred to a Shropshire ram will give good results in lambs for market and a good yield of wool.

Still we hesitate to advise an inexperienced breeder to make crosses. It is much safer to stick to the breed one has. Experienced sheep breeders say the long wool, open-fleece breeds of sheep, like the Cotswolds, Leicesters and Lincoln, are so successful in this climate as are the more compact fleeced breeds like the Southdowns, Dorsets and Merinos.

What advice will our readers give Mr. Powers?

SHEEP FEEDING.

A Paper by J. H. Starr, Boone Co., Mo., Read at the Meeting of the Missouri Sheep Breeders' Association.

In feeding sheep I find that it is necessary to start right, the same as in any other business. The first thing a feeder should know is, has he proper protection for sheep, such as sheds, or barns, or bad weather. Sheep can stand cold rains, or sleet. I am an advocate of well ventilated sheds or barns, whether for feeding for market, or breeding purposes. Unthoughtful people suppose a sheep's wool always keeps the animal warm, but such is not the case, when sheep are allowed to be out in the rains and cold, which is usually the case from November until April, they chill and take violent colds and lung troubles follow. Some will be lost and others manage to live, but the flock will have many thin, unhealthy sheep while others more fortunate in standing the winter blasts are ready for the market.

It is a mistaken idea to think that one should depend principally on corn for fattening sheep; one should use plenty of bright, sweet roughage such as clover hay, sheep oats, mixed hay, millet, and there is nothing superior to corn fodder or hay cut from new meadow with plenty of weeds in it, for sheep are fond of weeds, and never fail to eat all such feed. This roughness should be given in racks or mangers and not too much at a time, but often so as after the hogs have bright and not allowed to become stale or unclean. When feeding sheep all the roughness they will eat I find one pound of corn per head a day is plenty for lambs or yearlings, but aged sheep should have a little more—one and one-fourth pounds. I find that it takes from 90 to 120 days feeding to make sheep fat enough to command the top prices when they go to market.

The corn rations above are for the first 60 to 75 days, and after that increase the corn to what the sheep will eat, which will be from one and one-half to two pounds per day, but always give all the roughness they will eat. Experience shows that sheep fed in the above manner from start to finish gain as much and are as satisfactory to the killers as are those that are stuffed with corn and little roughness. So it is evident that we should adopt the cheaper plan. There is one more thing most essential and that is there should be a good supply of pure water. Sheep on dry feed drink several times a day. I have known pet sheep that would drink two or three gallons of water in 12 hours.

I am an advocate of feeding sheep on grass when one is situated so that this can be done. Should one want to feed early so as to market in December or January, begin to feed corn in September. The

grass will likely do the sheep good until the middle of November or first of December, and by commencing the roughness when grass begins to fall the sheep will know no change. If you wish to feed for late spring market and clip them, do not feed much grain in early winter, but plenty of roughness, and begin with corn in January or February. As soon as the weather gets warm in April, clip and let the sheep have 30 days of grass, with all the corn they will eat.

I will close by saying that any man can be a successful sheep feeder if he will provide protection from storms, feed bright, sweet feed, in clean places, good water and exercise care.

PASTURING SHEEP ON ALFALFA.

More attempts have been made in the Arkansas valley to pasture sheep on alfalfa than in any other part of Colorado. Some years when the feed on the range has been poor quite a large number of sheep have been pastured part of the season on alfalfa, but during the summer of 1898, the range grass was very abundant and nearly everybody turned the sheep and lambs on the range. The center of the sheep industry in the Arkansas valley is the counties of Otero, Bent and Prowers. Statements were obtained from those who had had the most experience in pasturing sheep on alfalfa and they are given herewith as showing what diverse results have been obtained and how various the opinions now held by those most familiar with the subject.

W. E. DOYLE, Pueblo.—We tried raising lambs on alfalfa pasture during the spring of 1898 and got along very well for the first two or three weeks while the pasture was short. But just as soon as the alfalfa got to growing faster than the sheep could eat it down close, they began to bloat, and before I gave it up I had lost about sixty head of fine Shropshire ewes and several lambs. I tried every precaution I knew of, such as not turning out until late in the morning, having them well filled with hay and grain, but it seemed to make no difference. Some days there would be no losses; then would come a day when a dozen would die after they had been grazing four or five hours. My opinion is that if one had a dog and coyote proof fence around the pasture and kept the sheep on night and day and kept the alfalfa picked down close until they got accustomed to it, the loss would not be so large.

However, from what I have been able to learn from those who have had more experience than myself, they suffer from 15 to 25 per cent loss, which at the present high price of ewes is rather expensive.

WM. AND H. G. GREENE, Olney.—One lamb began to bloat about the tenth of April, and both in 1897 and in 1898 we lambred them on alfalfa. We put the ewes on the alfalfa before it started and kept them there until we were through lambing. We yarded them at night. Until the alfalfa got well grown we fed them hay. When feed began to get plenty, they would bloat more or less, but we never lost a sheep.

The first season after this lambs were a few days old we tried turning the ewes to the alfalfa. But we could not make it work. The ewes would bloat and die, if they were only on a short time, even fifteen to twenty minutes. Last year we did not try to return the ewes to the alfalfa after they came in, but took them to the prairie, which was good feed. By turning the dropping band on alfalfa, the ewes have plenty of milk and are in good condition. We have fine lambs and expect to get nearly one hundred per cent increase. We have tried other ways of running sheep on alfalfa, but cannot make a success of it.

D. C. ROBERTS, Ordway.—My experience in pasturing alfalfa with sheep is on rather a small scale. Among my sheep that I was fattening during the spring of 1898, were eight ewes that dropped lambs in April—fifteen lambs from the eight ewes—while on dry feed in the corral. When I sold my sheep in May, these ewes and lambs were turned loose in the alfalfa fields, twenty-three head in all. They roamed over the farm at their own will, seldom coming near the barn. In September I put them in the corral again and found there were twenty-three head still. On September 10, several of the large lambs weighed 90 to 95 pounds. They were on the green alfalfa through wet and dry and apparently never bloated.

W. B. BALDWIN, Fowler.—We have had considerable experience in pasturing sheep on alfalfa. At first we lost quite a number, but finally found that the loss would be largely reduced if we left the sheep on the alfalfa day and night and kept the alfalfa large. We also found it best to have the sheep's stomach empty when put on alfalfa, and then not take them out even if the stomach is empty there is that if the stomach is empty there will be room for a large amount of gas if they do bloat, and as soon as they begin bloating they will stop eating and but few will die. This theory is altogether different from the general opinion, but it is all right. Sheep must not change pasture. They must stay on the same pasture all summer if you wish to have success. Good alfalfa will keep about eight ewes and their lambs per acre. It should be irrigated often so as to keep the alfalfa from getting dry. If the alfalfa should get dry and you have to change the sheep to another field, you may expect losses.

Shropshires are the hardest sheep I have had on pasture or on range.

Lambs do not bloat on alfalfa until they are old enough to wean.

Alfalfa is certainly the best thing to lamb on for spring lambs. We are now (January, 1899) having our first experience in lambing ewes in the winter. We have 1,100 ewes and so far have saved about ninety-five per cent of the lambs.

W. H. NEY, Fowler.—The best way to guard against bloat in pasturing sheep on alfalfa is to feed the sheep well on dry feed just before turning them on the alfalfa and turn them in white full and leave them there night and day. By this method the losses will be light and success assured. Alfalfa pasture has great fattening qualities and early lambs having the run of alfalfa fields during the summer months will make much heavier gains than lambs running on the open range. Alfalfa is a natural fattener. We could show lambs the fall of 1898 that were fit for any market and had tasted no grain since the last April. Sheep that run on alfalfa need little or no grain to fit them for market, and this makes quite a saving.

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Of the best families at farmers' prices. Write for what you want, or what is better, come and inspect the stock.  
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I have for sale five or six double deck cars of goats, consisting of Recorded, High Class, Old Fashioned Goats, about one hundred head of Choice Young Bucks, and also two double deck cars of fine Angora wethers, that are located thirty miles south of Kansas City. I can sell you any class of goats you may want at a reasonable price. Address, **W. T. MONTGOMERY, Agent, Kansas City Stock Yards, Kansas City, Mo.**

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Breeder of registered Shropshire Sheep, Poland China Hogs and Shorthorn Cattle, also Mammoth Broom Turkeys and Barred Rock Chickens.  
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That will make a 700 lb. yearling and will show through all of the fairs this year. A few fall gilts that will do to show under one year and a fine lot of pigs ready to ship. Come and inspect them. We will treat you right.  
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**A Positive Cure and Preventive.**  
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**Dip & Wash (for Live Stock)**  
Dipping, washing or spraying live stock is essential for the cure of Scab, Mange, Itch, etc., and for killing and removing ticks, fleas, lice, etc. **Lincoln Dip** is composed of nicotine, sulphur and valuable oils, but contains neither lime nor arsenic. It is effective but not poisonous or injurious. Write for literature upon treatment of stock for skin parasites.

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of this country may be in advance of the people of other nations in their industrial methods, they have a great deal to learn of them as regards the conduct of the wool growing industry.  
No manufacturer who knows his business will buy wool loaded with paint except due allowance be made for the fact in the bill which the seller renders him. This should be readily understood by the grower, and it is difficult to understand how the latter can figure out any advantage to himself in sending such clips to market. Every time he does so he stands in the way of his own interests, for he is steadily building up for himself the reputation of offering a commodity which it will be to every one's advantage to have nothing to do with so long as anything else can be found in the market—Wool Reporter.  
Don't for a moment think of allowing chickens in the sheep barn unless you wish your sheep to become covered with vermin and their feed troughs to become foul.

# The Markets

**WHEAT**—Cash Market—Old soft winter chiefly sought after and No. 2 red sold at 67c for Western to 68c for choice by sample, 6,000 bushels f. o. b. selling at 66c; No. 3 red sold at 65c; No. 4 at 64c. New No. 2 red sold at 66c for rather soft and cooked to 67c for fair, but choice held at 67c; No. 3 red sold at 65c, no grade at 46c; hard winter in demand, spot car lots No. 2 selling at 66c; No. 3 at 65c; round lots Turkey to arrive at 66c; No. 2, 1st hard at 66c, latter Turkey; rejected at 65c; No. 3 spring at 67c; No. 4 at 67c.

**CORN**—Cash Market—Firm, but no higher, as demand very light; so was the supply on sale. By sample, del., No. 2 sold at 43c; No. 3 at 42c; No. 4 at 41c; white held at 42c; No. 3 loaded and 4c for both. Yellow on the Levee sold at 42c.

**OATS**—Cash Market—Sales at 29c for choice No. 2, including Northern, and 28c f. o. b. from store; No. 3 white at 28c; No. 2, latter choice, No. 2 white sold at 27c; No. 3 white at 26c; No. 2 white at 25c, mainly latter.

**RYE**—Lower to sell, but very dull. Grade No. 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.

**HAY**—Current rates on truck: Timothy \$14.15 for choice; \$13.15 for No. 1, \$12.15 for No. 2, \$11.15 for No. 3, \$10.15 for No. 4, \$9.15 for No. 5, \$8.15 for No. 6, \$7.15 for No. 7, \$6.15 for No. 8, \$5.15 for No. 9, \$4.15 for No. 10, \$3.15 for No. 11, \$2.15 for No. 12, \$1.15 for No. 13, \$0.15 for No. 14.

**PRICES ON CHANGE.**

The following tables show the range of prices in future and cash grains:

	Closed	Monday	Closed
Wheat—			
July	67 1/2	67 1/2	67 1/2
Sept	67 1/2	67 1/2	67 1/2
Nov	67 1/2	67 1/2	67 1/2
Dec	67 1/2	67 1/2	67 1/2
Jan	67 1/2	67 1/2	67 1/2
Feb	67 1/2	67 1/2	67 1/2
Mar	67 1/2	67 1/2	67 1/2
Apr	67 1/2	67 1/2	67 1/2
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June	67 1/2	67 1/2	67 1/2
July	67 1/2	67 1/2	67 1/2
Aug	67 1/2	67 1/2	67 1/2
Sept	67 1/2	67 1/2	67 1/2
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Sept	67 1/2	67 1/2	67 1/2
Oct	67 1/2	67 1/2	67 1/2
Nov	67 1/2	67 1/2	67 1/2
Dec	67 1/2	67 1/2	67 1/2
Jan	67 1/2	67 1/2	67 1/2
Feb	67 1/2	67 1/2	67 1/2
Mar	67 1/2	67 1/2	67 1/2
Apr	67 1/2	67 1/2	67 1/2
May	67 1/2	67 1/2	67 1/2
June	67 1/2	67 1/2	67 1/2
July	67 1/2	67 1/2	67 1/2
Aug	67 1/2	67 1/2	67 1/2
Sept	67 1/2	67 1/2	67 1/2
Oct	67 1/2	67 1/2	67 1/2
Nov	67 1/2	67 1/2	67 1/2
Dec	67 1/2	67 1/2	67 1/2
Jan	67 1/2	67 1/2	67 1/2
Feb	67 1/2	67 1/2	67 1/2
Mar	67 1/2	67 1/2	67 1/2
Apr	67 1/2	67 1/2	67 1/2
May	67 1/2	67 1/2	67 1/2
June	67 1/2	67 1/2	67 1/2
July	67 1/2	67 1/2	67 1/2
Aug	67 1/2	67 1/2	67 1/2
Sept	67 1/2	67 1/2	67 1/2
Oct	67 1/2	67 1/2	67 1/2
Nov	67 1/2	67 1/2	67 1/2
Dec	67 1/2	67 1/2	67 1/2
Jan	67 1/2	67 1/2	67 1/2
Feb	67 1/2	67 1/2	67 1/2
Mar	67 1/2	67 1/2	67 1/2
Apr	67 1/2	67 1/2	67 1/2
May	67 1/2	67 1/2	67 1/2
June	67 1/2	67 1/2	67 1/2
July	67 1/2	67 1/2	67 1/2
Aug	67 1/2	67 1/2	67 1/2
Sept	67 1/2	67 1/2	67 1/2
Oct	67 1/2	67 1/2	67 1/2
Nov	67 1/2	67 1/2	67 1/2
Dec	67 1/2	67 1/2	67 1/2
Jan	67 1/2	67 1/2	67 1/2
Feb	67 1/2	67 1/2	67 1/2
Mar	67 1/2	67 1/2	67 1/2
Apr	67 1/2	67 1/2	67 1/2
May	67 1/2	67 1/2	67 1/2
June	67 1/2	67 1/2	67 1/2
July	67 1/2	67 1/2	67